MAR 27 1922

Vol. XXXI. [illegible] Whole No. [illegible]

[illegible] LIBRARY
MAR 17 1922
[illegible] OF MICH.

THE PHILOSOPHICAL REVIEW

EDITED BY

J. E. CREIGHTON

OF THE GRADUATE SCHOOL OF PHILOSOPHY, CORNELL UNIVERSITY

WITH THE COÖPERATION OF

JAMES SETH

OF THE DEPARTMENT OF PHILOSOPHY

MARCH, 1922

I. The Soul and Matter ..... W. H. SHELDON
II. The Paradox of the Thinking Behaviorist ..... ARTHUR O. [illegible]
III. Some Tendencies of Opinion on Our Knowledge of Other Minds. JOSEPHA C. GREGORY
IV. Proceedings of the Twenty-first Meeting of the American Philosophical Association.
V. REVIEWS OF BOOKS: *John Maynard Keynes*, A Treatise on Probability: by Clarence Irving Lewis—*Armando Carlini*, La filosofia di Kant: by Frank Thilly—*W. R. Matthews*, Studies in Christian Philosophy: by John Baillie.
VI. Notices of New Books
VII. Summaries of Articles
VIII. Notes

PUBLISHED BI-MONTHLY

LONGMANS, GREEN, AND CO.

LANCASTER, PA.

55 FIFTH AVENUE, NEW YORK

SINGLE NUMBERS [illegible] ([illegible]) PER ANNUM [illegible] ([illegible])

THE PHILOSOPHICAL REVIEW

Contents for March, 1922

PAGE

The Soul and Matter ..... W. H. SHELDON 103

The Paradox of the Thinking Behaviorist ..... ARTHUR O. LOVEJOY 135

Some Tendencies of Opinion on Our Knowledge of Other Minds. JOSHUA C. GREGORY 148

Proceedings of the Twenty-first Meeting of the American Philosophical Association 164

Reviews of Books 180

John Maynard Keynes, A Treatise on Probability: by Clarence Irving Lewis—*Armando Carlini*, La filosofia di G. Locke: by Frank Thilly—*W. R. Matthews*, Studies in Christian Theology: by John Baillie.

Notices of New Books 195

Bernard Hollander, In Search of the Soul, and the Mechanism of Thought, Emotion, and Conduct—*Robert Ernest Hume*, The Thirteen Principal Upanishads—*Jean Wahl*, Les Philosophies Pluralistes D'Angleterre et D'Amerique—*John P. Dalton*, The Rudiments of Relativity.

Summaries of Articles 202

F. Pécaut, Auguste Comte et Durkheim—*E. B. Titchener*, Functional Psychology and the Psychology of Act—*Frank Chapman Sharp*, Is There a Universal Moral Standard—*J. P. Turner*, The General Nature of the Conditions which Determine Development—*A. Lasille*, De quelques espèces d'égalités et de quelques-uns de leurs avantages ou inconvénients—*P. Caraballese*, Que cosa e la Filosofia?

Notes 211

Émile Boutroux—Beano Erdmann—Southwestern Philosophical Association—Current Philosophical Journals.

Articles intended for publication, books for review, exchanges, and all correspondence in reference thereto, should be addressed to Professor J. E. Creighton The Philosophical Review, Cornell University, Ithaca, N. Y.

LONGMANS, GREEN, AND CO.

41 N. Queen St., Lancaster, Pa.; 55 Fifth Ave., New York City

Entered in the post-office at Lancaster, Pa., as second-class matter

Number 2. *Whole*
Volume XXXI. *March, 1922* *Number 182.*

THE PHILOSOPHICAL REVIEW.

THE SOUL AND MATTER.[1]

THOUGH philosophers have declared these many years that materialism is a dead issue, that world-view is probably stronger now than ever before. Not that more philosophers are confessed materialists — they are not; but that the theses of materialism, however formally disowned, are practically accepted today by a greater number of both professional and non-professional thinkers. For the social democracy of our era sweeps by its intrinsic logic toward a materialistic evaluation of human interests; and the thinker, steeped in that democracy, wishes not to re-direct, but to follow and fortify the tendency of his time.

How then does democracy lead to materialism? Through its adoration of publicity, of what commends itself to the group. One who regards society as the source of political and moral right, will like to find in social confirmation the test of truth. Now the one great phenomenon which is socially confirmed is the external world, *i.e.*, the material world. Our knowledge of that world is codified in science. Democracy, as soon as it is a little educated, worships science, the body of knowledge verifiable by all. The scientist demonstrates his results on the laboratory table, or the screen of the lecture hall; they are open to the inspection of every man, and their authority lies in the consensus of witnesses. The essence of a proper scientific experiment is that it can be repeated by another experimenter. Scientific truth is not an insight, but an exhibit open to the public. Science

[1] Read as the President's Address at the annual meeting of the American Philosophical Association held at Vassar College, December 28–30, 1921.

knows no privileged intuition, superior to the social test. In art or religion, the individual knows the value of his inspiration; he seeks social approval precisely so far as he is not sure of his message.[1] Hence these disciplines languish in our day, or are transformed, as Protestant Christianity is being transformed, into a scheme of social reform. For the age of democracy is the age of science, as both live upon publicity. And thus the dialectic of history has conferred on science today that same exclusive prestige which the Church enjoyed in the Middle Ages. What science teaches, is certain knowledge; faith and poetry are not other kinds, but a lesser, if not a vanishing degree of knowledge. But the public phenomenon is the material world, and science's conquests lie in that domain. Truth accepted by all in ethics, æsthetics, religion, psychology, there is little or none. How could a spiritual principle be seen in public? Science, in short, is but knowledge of matter and its laws. These are seen clearest, of course, in the simplest realm, the inorganic; physics is far and away the most successful science. Hence it is taken as the source and the type of all knowledge; biology becomes a branch of physics, and psychology in these latter days a branch of biology. So it is at least in North America, where we have practically no vitalists or animists. And this, after all, is straight materialism. In Europe, where democracy has not penetrated so deeply, mind and life, though eluding the screen and the table, are still respected for themselves; and we have a Driesch, a Bergson, a McDougall — even a Wallace and a Lodge. But for the democratic thinker, reality is the socially verifiable, which is the subject-matter of physics; the mechanical scheme, where all is impact and recoil, attraction and repulsion of particles, where everything has its cause, where the laws of the conservation and distribution of physical energy exhaustively describe everything that occurs — this scheme is the outline of all certain truth. Mind, life, and spiritual values are but instances, complicated though they be to the last degree, of these processes. Materialism, oldest of philosophies, so often wounded to the death by its foe idealism, has healed its deadly

[1] *Cf.* H. Bergson, *Mind-Energy*, p. 4.

wound and assuming the garments of democratic science, reenters the arena.

Not only as a theory of reality does materialism appeal to the democrat; to his practical aims also it is congenial. For he is above all things an altruist. The gospel of equal opportunity is but the Christian precept of love toward one's neighbour; why should I trouble to see that another man has his chance of a living unless I sympathize with him? Sympathy, kindness, tactful consideration — these are the democratic virtues, practised in this country today probably as nowhere else and as never before, except among the early Christians. So we find it our duty to provide employment for all and to feed the starving nations. Readily enough does materialism lend itself to this programme. Are not these goods material goods? And while no doubt the ensuring of them is a real duty, yet that duty is so large and difficult in the execution, that the result is an exclusive concern with bodily needs and welfare. In fact, almost the only non-material good that we wish to provide for all the people is education. But who are to be the educators? The materialists? In large measure they are actually so, and in a scientific age the measure is likely to become larger.

On the emotional side as well is materialism in harmony with democracy. The materialist is always a cheerful being. He has got all the reality he wants; he need not resort to a transcendental realm, or another life. The laws of material process have been proved by science; he has not to strain and sweat to convince men of their truth. Throwing off the incubi of self-condemnation and fear of a God whose ways are above our comprehension, he is happy at finding definite problems to settle, succouring his fellows in their economic need. His religion is the religion of healthy-mindedness; he has no theoretic problem of evil to worry over, only practical tasks to perform. The laughing Democritus, the pleasant Epicurus, commend themselves to the optimistic American, who also laughs more than others, and is ever congratulating himself on his sense of humour. For democracy is the most hopeful of creeds, as it leads each man to believe that he is potentially the equal of all,

and that all together can work out their earthly salvation. The austerities of theism, of a broken spirit seeking only to do the will of its Maker, find little response from the self-confident democrat. He turns rather to the gospel of happiness and efficiency which the materialist offers.

Nevertheless, materialism has its category of sin. When the ten commandments and the Trinitarian theology are cast overboard, their place is taken by the ideal of scientific mechanism. It becomes our duty to make each man a well-oiled cog in the social organism — an organism being ultimately a machine. All individuality must conform to standards fixed by the scientific expert; education is meted out in unit-hours, the birth-rate controlled by Mendelian principles, alcohol forbidden because it curtails efficiency — in short, all conduct is to be rated according to its effect on the whole social body. And in such a mechanized life, sin assumes two forms: (1) belief in things that cannot be brought under the measuring-rod of physics, *e.g.*, irreducible mind, telepathy, departed spirits, prayer, and (2) respect for personal liberty and enjoyment as in some degree ends in themselves. Psychical research is dubbed superstition, and the individual self an illusory abstraction. Such is the picture whose outline the dominant tendencies of our time are tracing; it is the picture of a world wherein the laws of the movement of material particles, and nothing else, have the control of our destiny.

And what has our professional philosophy to say about it? Do not most of us think of philosophy as the system of scientific knowledge, relegating to the background artistic and mystical experience? But let us see what the schools have to say. We shall consider only the three most aggressive and proselyting — pragmatism, extreme realism and absolute idealism; we deliberately neglect as having at present far less general acceptance, personalistic tendencies and the type of pluralism of which Ward's *Realm of Ends* is so impressive an instance.

The pragmatic school, which is the most influential in this country, plays directly into the hands of materialism. It takes the cue from biology, which with us is a mechanistic, and there-

fore materialistic affair. Consciousness becomes no longer even a diaphanous remnant of the soul, but is defined in terms of the occasion at which it arises in the body; it is now a tentative or implicit reaction of the organism to a stimulus, now the fact of the co-ordinated responses of various muscles. Pragmatism paved the way for the new psychology of behaviour, which is frankly materialistic in its procedure. It makes no difference if the pragmatist espouses a theory of knowledge which calls matter an abstraction, and talks of experience as the only reality. For this experience in turn follows the laws which govern the body-laws of chemistry and physics; and whether these laws are denominated hypostasised concepts, or purposive creations, or short-hand descriptions, they may not be transgressed. The materialist has the last word.

In the same situation is extreme realism, or the doctrine which would define mind wholly in terms of its objects. These objects are either physical, in which case materialism at once follows; or they are non-physical entities such as concepts, suppositions, or other *Gegenstände*. In this case we have to ask whether the appearance of these beings to the mind is determined by the nervous system and the other bodily organs. If it is so determined, mind is at the beck and call of material processes, and the position is tantamount to materialism. What boots it that the concept $\sqrt{-1}$ is not a material object, so long as our thought of that concept is conditioned wholly by the currents of the nervous system? If indeed the realist holds that the concept is irreducible and affects our bodily behaviour, he is then an interactionist, and interaction is certainly inconsistent with materialism. But how many of our philosophers today are interactionists? A super-material sphere of timeless conceptual entities offers no escape from the network of material causation; for these timeless beings are as impotent as shadows. One who thinks to avoid materialism by such a device is like a man floating on a stream, who fixes his gaze on a tree and imagines that thereby he ceases to be carried along. Materialism only claims that every event, spiritual as well as physical, could be accounted for, as is the orbit of a planet, by previous physical events alone.

We might go all the way with Berkeley to his "*esse* is *percipi*," and even then be materialists. If *percipi* is conditioned upon the anatomy and physiology of the organism, and upon the laws of inorganic nature, it is no refutation of materialism to reduce all to *percipi*. It simply becomes a question how *percepta* and perceivers are governed; and if they are governed wholly by the laws of matter, materialism again has the last word.

Absolute or speculative idealism, which is very influential among us, would seem to give no aid to materialism. Yet, granting that mind is the supreme reality, we must ask: what is that mind? Not another entity, we are told, correlative to material body and process; rather the integration and mutual dependence of material processes, as we find, for example, partly realized in the human organism. Mind is here, of course, no agent, like a moving ball or a magnet; it is not even a guide or director of the bodily processes.[1] It is simply the fact of system. No single act of the living body is caused by mind; causal explanation lies on the lower and material plane. We are saved, doubtless, from the name of materialism, but not from its consequences. Mind is rescued for the whole at the cost of its effectiveness upon the parts. The materialist's account of the body is adequate to the needs of the body. In point of detail there is little difference between the idealist's account of habit-formation, instinct, or affection, and that proffered by the student of behaviour. Idealists would no more interfere in biology or psychology than they would in physics. But since they raise mind to so high a plane as to prevent its interference in mundane affairs, they do resign to the materialist a practical control of the field. Idealism has been called a closed system; there could hardly be a greater misunderstanding. It is the openest ever conceived by man, as it permits the details of history to be managed in any way we please. We do not question the truth of idealism, but its relevancy to the issue of materialism with spiritualism. The materialist does not care how the world is interpreted so long as human temporal destiny is controlled by the laws of physics. And the idealist expects the

[1] *Cf.* Bosanquet, *Principle of Individuality and Value*, Lecture 5, appendix 1, "Guidance-Theories."

earth to cool off, and human values to disappear (among them the idealists) quite as does the materialist; also, like the materialist, he places the finite personality in the realm of appearance.

Whatever names we use, whatever devices of epistemology we employ, reducing matter to a phase of mind, a concept, a relation, an image, and causation to a fiction, mind has pretty well become to us a meaning, not a power. It is beside the point to argue that this result does not affect humanity, so long as we solve our practical social problems. The materialist will urge one solution of these, and the dualist a very different solution. The former will insist that all human problems be treated by scientific method alone, by sociological law and mental test; his opponent, believing that some aspects of life are outside the mechanistic purview, such as personality, freedom, artistic and religious experience, will insist that these be allowed to develop in their own way. A socialism governing the individual by scientific standards is confronted by an individualism which, not rejecting a certain degree of sociological supervision, yet believes in a modicum of personal independence. This practical issue, which is daily becoming sharper with us, cannot be finally adjusted apart from a whole philosophy of life. And in that philosophy the issue raised by materialism is the central one.

Has mind then any properties or functions which cannot be described in terms of physical process? Has it any independent existence or power? Is it more than a form or background, in which, as in dark space, all events occur, but which is no more able than that space to control the events? Is it as truly an agent as electricity is an agent? We shall try to set forth evidence for an affirmative answer to these questions.

Suppose we remember a visit to the Azores 20 years ago. That original visit, we are told, left paths in the nervous system, along which resistance is diminished, and a nervous discharge tends to follow those paths. But this physical account misses the essence of memory. The neural event is a present fact, similar to one that happened in the nervous system before, but not in any sense that past event; while in memory the past event

is present. There is here a direct incompatibility between memory and the laws of material existence. Materially the past event is quite non-existent; mentally it is not, for it is present (with all its pastness too) as a part of our conscious experience. No matter whether it is directly present as if in a sort of perception, or present only as something not seen but meant or inferred. In either case it is an object touched by present consciousness; for inferring is a conscious act. Nor does it matter whether we say the past event is re-lived in the present, or the mind leaps back into the past. In either way the gulf of time is bridged. But physically this sort of thing cannot happen, for a present physical event cannot be or contain or touch an event that happened 20 years ago.

This is the first count in the indictment of materialism. It is no dogmatic declaration that consciousness is not physical; we point out a specific and admitted property of consciousness, viz., presence of the past in memory and see that this property is incompatible with the conditions of material reality. For material processes exist only in the present; past and future processes are not. No material process can transcend the present. No behaviour of the bodily organism can indicate any such transcendence, except to a mind which reads the signs. There may, of course, be a kind of response peculiar to memory-situations, as there is one peculiar to sweet smells. But this response is a present process, and it can not lay hold of the past, or be a response to the past. The eyes could not fixate a past object, nor the hands reach for it. There is no question of the difficulty of finding behaviour suitable to the meaning of pastness. Present behaviour can no more recall the past event than punishment can undo a crime. Not a difficult problem, but an impossibility confronts the materialist here.

This point, indeed, is not new. It is implicit in many idealistic writings, *e.g.*, in Kant's Deduction of the Categories in the first edition; and among realists is urged by Bergson and McDougall. Yet these two do not seem to me to bring out clearly the real crux of the argument. Professor Bergson has given a wealth of reasons[1] to show that memory does not depend wholly on

[1] *Cf. Matière et Mémoire*, Chs. 2 and 3.

the brain. He finds that ability to recall the past does not vary with injury to brain-mechanisms. On the one hand, men lose the power of recalling the past without noticeable brain-lesion; on the other hand, a sound memory for past events may coexist with word-blindness, where a brain-lesion has thrown the associative mechanism out of gear. What is called recognition of an object is, he declares, not memory, but the motor-habit of responding suitably to the sense-datum; and this habit may be broken by a lesion while pure memory remains intact. These arguments, however, seem to me only to prove that memory is relatively independent of associative mechanisms; not that it is independent of all nervous mechanism. There may well be mechanisms in the cortex, not yet suspected, which — for aught that these empirical considerations prove — generate and regulate our consciousness of past events. And when we reflect that amnesia is often due to drugs, blows, or illness, the supposition seems far from being ruled out. The most that Professor Bergson's evidence justifies us in asserting, is our *present* inability to explain pure memory on the basis of brain-physiology alone; for the associative mechanism is inadequate, and we know no other. He never shows that there could be none, owing to the incompatibility between awareness of a past and any physical process whatsoever. The argument only emphasizes the difficulty of the materialistic programme; it is no refutation of the programme's feasibility.

Nor does the evidence of Professor McDougall accomplish more.[1] He points out that we learn a series of nonsense-syllables more slowly than a sensible series; as if the 'meaning' of the latter showed the influence of intelligent thought on a brain-process. But a materialist might claim that 'sense' or 'meaning' is an already formed system of brain-paths, an acquired physical disposition, which is more easily retraced than the new paths corresponding to the nonsense-series. To be sure, nobody has proved beyond dispute that this is the case; but until it is proved *not* to be the case, the materialist remains undaunted. McDougall's, like Bergson's, is only a difficulty-argu-

[1] *Body and Mind*, Ch. 24, *Memory*, esp. p. 336.

ment. Again, memory may well be, as McDougall says, a single "act of apprehension" and not a habit-series. But that does not make it immaterial; we have still to ask, what is there about an act of apprehension that escapes description in terms of bodily response? Until this question is answered, materialism is no worse off. Nor does the fact that memories may persist longer than learned habits — as memories of childhood in old age — show memory immaterial; or any other distinction between memory and motor habit — until a precise incompatibility with physical process is revealed. The failure to find a memory-cell, or a particular sort of response that distinguishes our consciousness of the past, or to equate the laws of memory with those of habit, are not sufficient proof against materialism. We must, no doubt, receive gratefully the testimony of these animists; their array of facts is imposing—far more so, indeed, than the elementary considerations so quaintly phrased by Kant in his section on "Synthesis of Reproduction in Imagination." Yet, taken by itself, this empirical array hardly comes as near to the real point at issue as did the latter discussion. For Kant did point out a way in which mind transcends all possible material process; and the heavy gymnastics which accompanied his pointing should not blind us to the fact that it is a simple matter of observation. Memory re-lives the past or refers to it; no physical event can do that. Once grant, indeed, this statement, and the arguments of Bergson and McDougall become an invaluable empirical confirmation. Without the elementary fact of incompatibility, all the specific differences between memory and brain-habit might some time, for all we know, be explained on physical grounds; with that fact, the differences are transformed, we think, from circumstantial evidence to strict proof.

We now come to the second argument against materialism. Not only in respect of time, but also of space, does consciousness show a discrepancy with physical process. When we see the moon, the brain-state and bodily reaction are within the space of the organism, and they exist nowhere else. The turning of head or body, the fixating of eyes, are definite material events;

they are not the moon, and cannot mean the moon. That eyes converge on the moon, letting the light-rays fall on the fovea, is but an occurrence inside the organism, and except to a conscious bystander — a 'behaviourist' perhaps — who interprets the whole thing, this event has in itself no reference to the moon. It no more indicates that orb than the paper which reflects sunlight indicates the sun. The moon is not present to the stimulated retina; it may be regarded (somewhat loosely) as cause of the stimulation, but this cause lies in the past, even though it has moved to its effect with the velocity of light. Consciousness, however, with a velocity exceeding that of light finds the cause immediately present; the distant object is as close in consciousness as the skin of the body. No material process can annihilate that distance, as does awareness. And, as with memory, it matters not whether we consider the moon a direct presentation or only something inferred or meant. Consciousness reaches the object, through whatever sort of psychosis. In short, there is here a flat incompatibility between mind and the limitations of material process. The organism is separated by space from the object to which it responds; mind with infinite speed passes from the one to the other.

A third incompatibility between consciousness and material process appears in the awareness of certain qualities. Memory transcends time at long range; sensation of a colour or sound transcends time at short range. When we see a green leaf, the light-waves enter the retina in succession, and though the titillation along the optic nerve is probably of a lesser speed and brings the successive vibrations into a denser series, they are still successive. No vibration is the one behind it; there is, even in the visual area of the cortex, no identity between the vibration of one electron and that of its neighbour. Be the succession of these vibrations never so close, it consumes time; yet in consciousness the series of them is somehow sensed as one resulting quality, a colour or a pitch. Of a wholly material phenomenon this could not be true, for succession, however short, is always succession. Whether the special nerves have or have not specific energies, is indifferent; in either case the energy

is a temporal series. Psychologists used to say that a quality is not the vibrations which occasion it—a dogmatic declaration which, being quite unexplained, could only arouse resentment in the materialistic breast. It is not that quality is a mysterious category, irreducible to quantity or anything else, but that there is a unity not separable into parts, about every quality; whereas a material process occurs in separate instants of time and separate positions of space, which cannot fuse. Of course a series of vibrations may give rise to a total material effect, as when a bombardment breaks down a wall; but the effect in such a case is not identified with the cause. When we see a colour the awareness is not only the result of the successive stimuli; it refers to, means, or is the object. For we see the object itself as coloured, and the indissoluble unity of the colour denies the spatio-temporal discreteness of the vibrations. As memory and perception annihilates distance, so sensation annihilates discreteness.

Professor McDougall has urged [1] that binocular vision, whereby two images are fused into one, shows the unifying power of mind; and perhaps binaural hearing might show the same thing. Yet this argument, though it may be correct, does not bring to light the essence of mind's unity, nor the reason why that unity cannot be material. He denies material explanation on the ground that the brain has no common sensorium—as, *e.g.*, the *corpus callosum* was once thought to be. But the difficulty of acounting for the singleness of the image is not in the duality of the optic lobes and auditory centres or the absence of a *sensorium commune*. Who knows but that, as Lloyd Morgan suggests (*Instinct and Experience*, p. 284), the currents in the two optic nerves may inhibit each other in such a way as to give one resultant image? As a matter of fact, a single optic lobe, or a common sensorium whereto all impressions converged, would not account for the unity which *any* state of mind possesses—be it sensation, or thought, or memory. Even a single pontifical cell would not suffice. For a cell is very complex and manifold; it comprises millions of electrons. And a small volume

[1] *Body and Mind*, p. 246 *ff*.

is no nearer to possessing unity than a large one. Is there more unity in the brain of a minnow than in that of a man? A collection of particles cannot possess the unity which a sensation or thought has; for the particles, however unified, whether by a common limiting volume or by coöperation, remain separate particles, whereas the attributes of a sensation's content,—its colour, intensity, etc.,—are nothing apart from that content. The parts of a sensation, if we may call them so, are fused without loss of distinctness; neither physical particles nor physical processes can be fused without losing their distinctness. This, and this alone, is the reason why the unity which is found in conscious states cannot be expressed in physical terms; it is incompatible with physical conditions.

We should not argue to the immateriality of mind from the fact that we entertain imageless thoughts or other pure 'meanings.' The concept *zero* may be non-sensuous, as far as imagery goes, yet for all that might be an implicit bodily response, and no doubt to a degree is so expressed. As Mr. Watson says: "We watch what the animal or human being is doing. He means what he does. It is foolish to ask him while he is acting what he is meaning. His action is the meaning."[1] But when all the separate events of this action are thought of as the expression of *one* meaning, we have in that meaning a character which prevents it from being merely a bodily affair. It is not the meaning but the oneness that is inconsistent with material conditions. For a meaning can be logically analysed, and the analysis does not tear the parts asunder; while material analysis does just that—as when a chemical compound is separated into its elements.

Nor should we base the uniqueness of mind on the fact that it possesses universals. Idealists have usually done so, and Platonizing realists;[2] and the temptation is strong. For a universal being one and the same in many places and times, seems to transcend material separation. Nevertheless, no refutation

[1] "Is Thinking Merely the Action of Language Mechanisms"? *Brit. J. of Ps.*, Oct., 1920, p. 103.

[2] This was also the main argument used against the 'behaviourists' in the *Symposium* above mentioned.

of materialism lies that way. A mere abstract universal has no reference to definite times and places; its universality lies in its abstractness. It does not render the future or the past event a present one, as memory does; to gain the presentness, it sacrifices the pastness. It contains nothing incompatible with the space-and-time world. To render the consciousness of the universal incompatible, we must import into it the knowledge that some instances are past, some present or future. And this is to import memory already. And besides this, mind is itself much more than an abstract universal; for it is, we hope to show, effective, and to be that it must be individuated.

So far we have found the nature of mind to lie in the power of including what is materially excluded; the cognitive states of memory, sensation, and perception, seem to accomplish this miracle by transcending time and space. We have now to consider a quite opposite property of cognition, which appears in the phenomenon of attention. As the former faculties unite what is separated, so attention separates what is united; for attention is selective. And this side of mind, complementary to the above, we shall find to be not indeed more essential, but more significant. For it introduces us to that dynamic aspect of mind whereby mind becomes a power and an agency; an aspect which can however be understood only when we consider the second great division of mental phenomena, the affective-conative states. Were it not for these, mind would be an immaterial entity indeed, but only after the manner of a form or relation. It would not have that individuality which constitutes a self and is necessary, as Aristotle taught, to efficient causation. Let us take up, then, some of the characteristics of attention.

We look at only a part of the scene spread before us, we listen to certain sounds alone, we take hold of this thing rather than that, the object we look at, hear, touch, is the object of consciousness, while the other stimuli which are raining in upon the organism excite little or no awareness. Now there is no possible material reason for this. The 'threshold' is physically inexplicable; even incompatible with physical conditions. A difference of intensity in brain-process is in no sense a difference in

being. If I am attending to a sound, and oblivious of aught else, still the effects of other stimuli are present in the brain and muscles—faint indeed, below the threshold, yet by no means non-existent. They are material facts just as much as the intensest disturbance of the auditory centres. Yet psychically they have no existence. There is a direct contradiction between the two orders; physically, all the cortical events are, physically some of them are not. As in memory what physically is not, psychically is, so in selective attention what physically is, psychically is not. Nor is the case bettered if, as psychological students of behaviour would do, we dwell upon bodily response rather than brain-excitation. If I am conscious of the dog I am trying to catch, and unaware of sounds in the rear, the coördination of muscles in eyes, legs, hands, is an integrated or systematic response, while the slight reflex of *tensor tympani* is an isolated response; yet though the isolated reponse is as much a response as the arm-movements, I am acutely aware of the dodging animal but not at all of the bird chirping in the tree behind me. Materially, a coördinated group of responses is no more actual than a slight, chaotic or otherwise contemptible reaction; psychically the latter's object drops away while the former's remains. We like to ascribe a mystical virtue today to coöperation, and we think that if introduced into the muscles it may almost generate consciousness; but this is really absurd. An arch or a clock with all their coöperative parts, are no less purely material than a heap of dust; and the incompatibility remains, between the presence of the response in the body, and the absence of its object in attention.

Let us be quite clear as to the point at issue. Not because selective attention shows activity or originality, something apparently *de novo,* is it immaterial; but because its way of acting could not be a physical way. Many thinkers have emphasised the 'spontaneity' of attention, and indeed of all organic functions, as a sign that life and mind are immaterial or non-mechanical. So have done the vitalists Driesch, J. S. Haldane, J. A. Thompson, Bergson, and others. The reply was always open that the spontaneity is but apparent. And it clearly does depend on the

presence of stimuli, external and internal, and varies largely with their intensity and complication. There is no way of proving that selectiveness, as of a lower organism which seems to choose its food, implies spontaneity, unless we can show that the attentive function has a property which does not fit material conditions. It is the inconsistency between the two realms that alone can bear the weight of the vitalistic or animistic argument. And attention as a conscious phenomenon in human beings reveals such an inconsistency, for in it certain bodily processes, which are physically as real as the others, become psychically quite non-existent.

Attention may be called the conative aspect of cognition; it is so often directed to the future. Such direction to the future happens either as a relatively passive cognition or as a relatively active purpose. The former case is expectation or foresight, as when we see a missile approaching or correctly forecast the remoter future; in the case of purpose, our behaviour tends to produce the future. Foresight shows the same unity of consciousness that memory shows, and the same discrepancy with physical conditions. In foreseeing what is to happen, one is aware of a future event; and this event, physically non-existent, is present in consciousness. Even were foresight only a reference to the future, and not a present beholding of it, the situation would not be different. It is just as impossible to refer to, as to possess, what is non-existent; just as impossible for the physical organism to respond to a future event as to a past event. Nothing, indeed, about a bodily response can indicate that it is a response to the future rather than to past or present—except to a mind that already knows the signs of futurity. But the future event is psychically existent in another way than that of presence; it is effective. Foresight determines action when we jump away from the imminent projectile. A non-existent thing could not be a cause; and that is why materialists must always object to teleology. Yet in cases of purposed action, teleology is just what seems to be the fact. So the problem is forced upon them of describing an intention to act thus and so in material terms. This they attempt to do by

such words as 'implicit,' 'tendency,' 'readiness,' 'set,' *etc.* For example, Professor Thorndike writes: "The sight of the prey makes the animal run after it, and also puts the conductions and connections involved in jumping upon it when near into a *state of excitability* or *readiness* to be made."[1] "When a child sees an attractive object at a distance, his neurones may be said to *prophetically prepare for the whole series* of fixating it with the eyes, running towards it, seeing it within reach, grasping, feeling it in his hand, and curiously manipulating it."[2] Now 'excitability,' 'readiness to be made,' 'prophetically prepare,' are but paraphrases for physiological potency; and they give not the slightest inkling of that actual foresight of the future which a child frequently possesses, and perhaps sometimes an animal. 'Readiness' or the 'implicit' describe truthfully enough, present material states; but the future which is mentally present can be, no more than the remembered past, a present material state. If a set of the muscles, an aptness of neurones for discharge, or other potencies of the future were a full guarantee of conscious intent, then a compressed spring would be planning its release, and a cartridge presaging its explosion. Between tending and intending lies the whole length of the evolution of life; a length which the materialist, for whom existence dwells only in the present, cannot compass. Potentiality, to which the materialist continually appeals, is but a physical condition, while in the consciousness of what one means to do the potency's fulfilment is actually present. As common speech has it, we 'realize' beforehand what we are going to do. Consciousness hereby shows itself to be, as Professor Montague has well said, no mere potency, but the actuality of a potency. Such actuality, however, is physically impossible while the potency remains unfulfilled. But the materialist, knowing that this is so, rules it from the universe with rigid exclusion, as a Puritan would have cast out a harlot from the house of God—and with something of the same spirit; for history repeats itself.

We have said that in purposed action an idea of the future

[1] *Educational Psychology*, I, p. 126. Italics mine.

[2] *Op. cit., ibid.* Italics mine.

becomes a present thing and determines the behaviour of the organism. The materialist of course urges that this conflicts with the conservation of energy and is impossible. That induction from inorganic nature has, I have elsewhere argued,[1] never been demonstrated of conscious animals. But the way in which a mental fact brings about material changes is to be understood from the second great class of mental phenomena, the affective-conative. These have, indeed, been too much neglected by recent definers of consciousness. Owing to the regrettable influence of epistemology, notice has been given mainly to cognition, as if this were the essence of mind. But as belief is notoriously the sport of the passions, so the conative-affective states are more fundamental than the cognitive. For in cognition we are relatively passive, and do no more than reproduce, while desire dictates the choices of selective attention and thereby the ideas which control our bodies' behaviour. In this field resides the agency of mind, and here alone shall we be able to discern in mind a degree of power which the materialist could neither guarantee nor admit.

But, to begin with, we must dislodge an error. The efficacy of conation is not proved by the fact of persistence through long periods, of working against obstacles, of comprehending many means under one end. If a man's determination to be wealthy continues through years of poverty, in the face of disheartening competition and bodily weariness, such perseverance is not necessarily the fruit of a psychical rather than a material force. Lasting quality, comprehensiveness, intensity, do not turn a bodily impulse into a conscious one. Who knows but that some day the materialist will learn so much about the human body as to explain these? Does not gravitation in the solar system account for processes whose endurance, intensity, and organized character are on the largest scale? Such arguments only point the difficulty of the materialist's task; a difficulty which he would be the last to deny. But incompatibility of the simplest conation with the limitations of physical nature is the one way of meeting his position. When that is made

[1] *Journal of Philos.*, Oct. 27, 1921.

plain, indeed, the difficulty offers a confirmation; for if a programme is hopeless, its difficulty is natural, whereas no amount of difficulty can demonstrate hopelessness.

Conation and affection, as is well known, are intimately related; and by study of the latter, we believe, is the essence of the former revealed. Let us begin by granting all to the materialist; let us accept his description of the affective states, keeping in the background for the moment the fact of consciousness. These display a duality: pleasure and pain. Pleasure and pain are not, like cognition, relations between the organism and an outer object to which it responds, but relations between processes within the organism. They consist respectively in the re-inforcement and inhibition of one process, or several, by another or others. Thus, when the organism re-inforces some reaction, that reaction is so far pleasant; when it inhibits the reaction, the latter is unpleasant, painful, or disagreeable. Professor Thorndike says, "when any original behaviour-series is started and operates successfully, its activities are satisfying and the situations which they produce are satisfying," whereas "when any original behaviour-series is started, any failure of it to operate successfully is annoying" and "the word 'successfully' must be defined objectively."[1] "Successful operation can in fact be satisfactorily defined, and what will originally satisfy and annoy can be safely predicted, only as a characteristic of the internal behaviour of the neurones."[2] "The essential satisfyingness in these cases is then the conduction along neurones and across synapses that are ready for conduction and the essential annoyingness in these cases is the absence of such conduction."[3] "Call . . . whatever makes up the path which is ready for conduction—a *conduction-unit*. Then *for a conduction-unit ready to conduct, to do so is satisfying,* and *for it not to do so is annoying,*" while also, "for a conduction-unit unready to conduct, to be forced to conduct would be annoying."[4] Mr. Watson gives an interpretation rather more specific;

[1] *Educational Psychology,* Vol. I, p. 124.
[2] *Op. cit.,* p. 125.
[3] *Op. cit.,* p. 127.
[4] *Op. cit.,* p. 127.

instead of the activity of neurones in general, he refers to impulses connected with the sexual functions. What leads to or furthers the characteristic sex-behaviour is pleasant, what hinders that is unpleasant.[1] Or again, in the words of Professor Ziehen: "The pleasure-pain component of the psycho-physiological process is identical with the readiness of the cortical cells to discharge. A certain disturbance in the cells of the cortex (for example, a chemical change) expresses a certain sensory and ideational conscious content. In the case of any such disturbance the readiness to discharge can vary greatly —that is, the tendency and capacity to transmit the disturbance (for example, the chemical change) further along the association or projection fibres which arise from the cells, can be greater or less. The positive affective processes express a great readiness to discharge, the negative a slight readiness."[2] Thus pleasure and pain are relations within the organism. If the disturbance or process is in harmony with the tendencies of the part of the organism concerned, there is pleasure; in the opposite case, there is pain (or the diagreeable).

But there is another fact about these affective states; and a material fact too. If pleasure consists in agreement, and pain in disagreement, between a process and a tendency, yet they differ from other physical instances of agreement and disagreement. The disagreement which constitutes pain is quite distinct in its consequences from a physical conflict of forces. A stone rests on a table, and the opposition between gravitation and the upward push of the table results in stable equilibrium. The stone remains at rest, impassive. In the living body, the result of conflicting tendencies is anything but rest. The animal struggles to escape from the painful situation. Pleasure, on the other hand, the bodily processes tend to repeat; we incline to prolong a pleasant sensation. But agreement or coöperation of forces in the inorganic world has no tendency to re-instate itself. If a heavy body's support is withdrawn, the withdrawal furthers the tendency to fall, but the event leads to no con-

[1] *Behaviour: An Introduction to Comparative Psychology*, pp. 22–25.

[2] Quoted in Thorndike, *op. cit.*, p. 126, footnote.

tinuation of itself. This distinction of course the materialists recognize. As one of them declares: "The movements of the projicient sensori-motor system are compelled by the affective disturbance and become a *means* to acquire stimuli which will re-establish a comfortable affective state. The status of affective rest is the *end* state of the dynamic striving."[1] Or as Thorndike says: "By a satisfying state of affairs is meant roughly one which the animal does nothing to avoid, often doing such things as attain and preserve it. By an annoying state of affairs is meant roughly one which the animal avoids or changes."[2] In short, a behaviour-series of *agreeing* parts tends to *continue,* while one containing a *disagreement* of the parts, an inhibition, tends to *remove* the disagreement or inhibition.

Now let us see what this materialistic account implies; and first with regard to pleasure. Suppose a part of the central nervous system so keyed and set as to be ready for a certain type of activity; say, the pneumogastric nerve ready to call out the activities of digestion. Then a stimulus occurs in the shape of food entering the stomach, which actually starts the digestive process. The congruence of set and stimulus is normally pleasant, and we tend to repeat the process—to take more food until satiety breaks off the series. How account for this curious coincidence, that congruence goes with a tendency to continuation? The continuation simply means that each of the congruent factors, in the very act of exercising its own function, fosters and furthers the other. The set of the nerve helps its discharge, called out by the food-stimulus, and the discharge promotes the favourable set of the nerve in turn; otherwise the process would not continue. For, by the materialistic account, if the nerve after having discharged, were *unready* for further discharge, the process would become painful—which it is not—until the organic situation called satiety intervenes. In other words, we have in a normal pleasure like food-taking a mutual furtherance of bodily processes. This sort of thing, where each of two or more processes aids the rest in the very act

[1] E. J. Kempf, *The Autonomic Functions and the Personality*, p. 78.
[2] *Ibid.*, supra, p. 123.

of proceeding, is common in living organisms; perhaps even a fundamental trait of life. In an animal or plant each organ, tissue, or cell by fulfilling its own function promotes the functioning of others and thereby of itself in turn. And if pleasure consists in just this mutual support, that explains why normal healthy life is *ipso facto* pleasant, and interruption thereof painful; at least in a conscious animal.

But besides all this material description, is the fact that pleasure is a conscious phenomenon. Pleasures, and pains likewise, are nothing if not felt. Now to feel a situation pleasant is to like it, to tend to move toward it, and remain in it; and the reverse for pain. The aspect in which pleasure is seen to be self-continuing is the aspect of consciousness. So if the self-continuing is but the mutual promotion of certain bodily processes, that mutual promotion is but mind. So far would the materialist go perhaps, levelling mind down to a material relationship. But we would go further, and declare that this mind has attributes that cannot be physically defined; that it escapes the material net, because it is an agent, and acts in a way that matter could not do. Mind, though more than cognitive, is probably never quite without cognition, however vague be that cognition. The pleasant situation is recognizable, distinguishable from other situations, to some minimal degree at least. Being object of cognition, it has that peculiar property we noted above, of being present at once in two or more times or places. The pleasant event which we consciously seek to continue becomes a future event thought of, however dimly. We *mean* to prolong the event; it is the *end,* in however rudimentary a fashion, of a process of purposed action. Now, as just said, the conscious aspect of pleasure is its attribute of self-maintenance; and this self-maintenance is the working of a system of mutually promoting processes. But the cognitive state wherein the maintenance of the pleasure is an end, a future event now present in mind, is the conscious aspect of pleasure. Accordingly, that state is the operation of a system of mutual promotion. When such a system operates, it is mind operating by a purposed end, however obscurely that end is fore-

seen. When bodily processes so interact that each fosters the other and in turn itself, we have what could not possibly be a merely material system. For this process is admittedly a causal one, giving rise to the continuation of the system, while at the same time its causation proceeds by the presence of a future end. The system of mutual promotion, being mental, is a case where each bodily process brings about its natural physical effect, but yet that effect is so regulated as to further its cause in turn. In other words, that effect is regulated by the future; in psychical terms, by the desire of the organism for the present situation. And this sort of agency is incompatible with material conditions, which do not permit the future to be a cause.

The point is that our result is implied by the materialist's description, together with the acknowledged fact that pleasure is a conscious state, not wholly without a cognitive element. It was indeed the presence of the cognitive element that led us to see that pleasure is irreducibly mental; but the analysis showed pleasure to be quite other than cognition and also more significant of mind's independence. In pleasure, the mind is active; and if the action is the action of ideas, yet the ideas act only as contributing to the system called pleasure. Did we not have feeling, we might remain forever passive spectators of the scene about us, linking up various parts of it indeed in memory, perception, and sensation; but presumably having no motives of action and no conception of the good. For however the good and the desirable be eventually defined, pleasure is the rudiment of both. And we may notice in passing that as a consequence, this account of pleasure as an interlocking system of parts which endeavours to maintain itself should be significant for the theory of value. But that is another story.

There is then no question of trying to find some mechanism in the body that would account for the mutually promoting process. If we call these an organic system, then our result is that an organic system is incompatible with the limitations of physical process. One thinks of certain lasting material collections, such as the sun and the planets, or a double star

with its two bodies revolving perennially about a common centre of gravity; and these are self-maintaining to be sure. But there is no evidence of any consciousness in these assemblages; there is no evidence, as there is in pleasure, of a cognitive mind which looks toward the future. And so there is no evidence that these are organic systems as we use the term. Nor do we here urge that the whole living body of a plant or animal is a true organic system. So far as the action of such a body is guided by the fundamental pleasures of food-taking or sex, it does seem to be an organic system. But until there is good testimony to the presence of consciousness in all cell-life, it would seem that vitalism cannot quite prove its point. Irreducible mind is the only thing that can exhaust the resources of mechanism. Of course, however, that does not mean that mechanism is correct. It seems to be definitely incorrect where the organism feels pleasure, and desires a situation or an object.

Desire or conation, as conscious processes, arises originally in connection with the organism's tendency to retain or further its felt well-being. In this sense feeling is the primitive part of mind, which renders it active and able to make changes, first in its body, then in the outer world. And because desire must be selective,—as any system admits qualified members alone—consciousness is from the beginning selective, and attention must have that character which is so inexplicable on a physical basis. There is selective attention because there is desire; and the first objects attended to are objects which secure vital well-being. It is then, we believe, from the affective phenomena and not from cognition, that the deeper insight into the nature of mind may be gained.

Having treated of pleasure, we have now to see how pain reveals consciousness. Pain is, in material terms, an opposition of direction between tendencies or processes; as when a nervous discharge takes place while the neurone is unready, or is inhibited in spite of the neurone's readiness. Now if pleasure tends to be continued, pain tends to be checked. The animal struggles to escape from irksome captivity, the organ to throw off a destroying agent. Felt pain is the mark of this relation

of opposition between bodily processes or states. Now the overcoming of the opposition is physically but the adding of some process which favours one of the factors. The escape of the animal is the increase of free movement, which confinement prevented; the ejection of a painful poison is itself a movement which contributes to the normal bodily welfare. This is really the pleasure-situation over again. But here the added process is not, while the pain lasts, a present one; and the tendency of the organism to secure that process is the desire of a distant object. That object is not present but remote, and here cognition will therefore be more marked than in the case of pleasure. For in pleasure, cognition, though present, is at a minimum; in pain desire is thwarted and the end is to be sought, wherefore cognition has more to do in the way of seeking it. Hence painful situations teach us new reactions and pain becomes a condition of learning. Pain does not lull to sleep. Cognition here is the primitive negative judgment—'not this but that.' But it is desire that stimulates us to learn.

When we see that desire, which is but conation due to pleasure or pain, is the original and productive aspect of mind, we may gain a better understanding of the unity of consciousness. This unity we met in cognition, but found hard to define. So difficult is the definition, indeed, that many now incline to deny that there is such a thing. But the affective states show it to be no mere figure-head or title; rather an efficacious function. It is the unity of a system of parts which are mutually promoting. The idealists used to define the self so; and they were right. But modern idealism is so bent on pointing to the whole System of Reality that it has too little interest in the special nature and order of the parts. Whereas man is and must always be interested to know the nature of the parts—in particular, of those important parts which we call finite minds or selves. Moreover, idealists have not sufficiently studied the particular phenomena of the body; they have left this to the materialists, content to refute materialism by dubbing matter an abstraction. Had they attended to the bodily processes, they might have found their principle of organic unity at work

among those processes, acting as an efficient cause among the physical causes, emphasising some processes in the nervous system, diminishing others, and so selecting one or another as to foster the life of the body and the development of the mind.

Mind then is preferential and selective; it builds up a system of interacting parts, and as this system is one, so the consciousness of a body is one—to wit, a self. It is the selective character, due to the organic form of affective processes, that makes up the individuality of a self. As there is no consciousness that has not affection, so there is none that has not selfhood. That is why there are no impersonal bits of consciousness, and why consciousness is always centred. It is no miracle; it is due to the nature of consciousness as revealed in affection.

In the above account we have omitted many problems and neglected many difficulties. Chief among omissions is perhaps the troublesome question of instinctive behaviour. It seems fair to say that no one has explained the endless diversity, the astounding power of adaptation shown in this department; certainly the materialists have not done so. The conclusion drawn by some is that materialistic explanation can never succeed; which is plainly only an argument from difficulty to impossibility and therefore unsound. Professor Bergson's analysis of instinct into sympathetic insight seems decidedly obscure, though that is no refutation of it; and possibly our own view, emphasising the affective side of mind, is not far removed from his. But our position has been based throughout on definite incompatibilities between admitted facts of consciousness and the nature of material process. Of these incompatibilities we found two sets: those of cognition, which showed a unity both inclusive and exclusive or preferential, and those of affection-conation, which showed this unity to possess an organic, systematic character that makes mind into an independent agent interfering in the physical realm. Further than this we do not at present attempt to define mind.

This completes one side of our thesis. Materialism, conceived in exclusive terms, denying unique spiritual being, is false. But we cannot end with such a result. All great world-systems are

profoundly true; and materialism, provided it be taken in wholly positive terms, offers no exception to the rule. A materialism which insists that matter on its positive side, and without the customary exclusions and limitations has, we believe, no point of conflict with the dualism here advocated. Indeed we shall go farther still and allege that unless we understand the truth of positive materialism, we wrongfully curtail our notion of mind. As a man who is unjust to another is thereby unjust to himself, so a spiritualism which denies final truth to materialism becomes formal and impotent. Enlightened materialism, freed from the negations and privations men have read into it, forms the only warrant of substantiality to the self, and becomes the evidence of a soul which may exist in separation from the flesh. Historical materialism and idealism, mutually exclusive as they are, have by their antagonism prevented such a fertile union; with the consequence that the strong old scholastic soul has been slowly bled white. But, no doubt, that soul cannot die, and for a properly conceived materialism is reserved the privilege of restoring that entity to vigour.

What then is a positive materialism, and wherein lies its truth? We have to ask what the materiality of matter really means. Now a body occupies a definite portion of space; also it is more than a bare volume and shape in so far as it tends to occupy always the same volume and shape. This occupation of the same volume,—same in amount and in configuration—is signified by its resistance to alteration when another body impinges upon it. And if the bodies we see do alter their volume and shape, that is because each of them is not truly one body, but a collection of atoms; whereas each atom being a single continuous body does retain always the same shape and volume. Science is ever seeking ultimate atoms which have a definite size and figure, and cannot be dented in or distorted. These atoms, in the face of impact, are to be perfectly elastic; none of the energy of impact alters the extent of the atom, since all of that energy is returned in the recoil of the colliding bodies. Now this attribute which matter possesses is conveyed

by the word solidity. To say the atom is solid is to make reasonable the fact that its extent and configuration are permanent. If the atom could be dented in, it must be hollow; there must be empty space within, whereto the surface can be driven by a blow. If the surface cannot be driven in, that is because all the space within is already occupied. So we declare that the volume of the atom is filled with stuff or substance. And stuff or substance means thus the tendency to retain the same figure; nor do these terms mean anything more. For there is nothing else that the concept of solid stuff or substance can signify. It could not mean, for instance, that which we sense. We never sense anything but surfaces; touch and vision, our objective senses, reach only surfaces, and if we cut bodies to see the inside we find nothing but new surfaces. The solidity or substantiality of matter is but a word signifying that in a single continuous body the surfaces tend to maintain the same spatial relations toward one another.

But if we analyse a little further, we find that this maintenance of the same configuration is no necessary trait of matter. The surface of a body marks the place where another body impinging is turned back. That place is the edge or limit of the body's stuff; its matter is the potency of turning another body back. A body's substance is its potential causality; 'potential' meaning that the recoil will occur if impact occurs, even though at the moment no impact be taking place. Now it is an empirical result that these places where motion is reversed do maintain the same relative position, and so we speak of permanent bodies, such as the atoms. But it is not a condition of materiality, of solid stuff, that the surfaces in a given body keep the same relative positions; they might change, and lose none of their materiality. All that is necessary for that attribute is the power, the potency of reversing the motion of impinging bodies. The atoms of science, by all the evidence, do keep the same boundaries. But the ether, if there be such a thing, does not; and the conception of the ether can hardly be called quite demolished as yet. There might be a kind of body which resisted impact from a given direction at two points

on the same straight line. Such a body would be material, because it offers resistance and possesses inertia, and inertia is, according to high authority, the fundamental attribute of matter.[1] But such a body would have one surface in two places at once. In short, there is no reason why the material solidity or substantiality of a body need not be quite dissociated from its exclusive occupation of one volume at one time. Materiality, which is the potency of offering resistance, does not necessarily imply such exclusive occupation. There is nothing self-contradictory in a material atom being in two places at once. It is simply to be settled on empirical grounds, whether or no there are such atoms. And while the material atoms which the evidence of sense-observation leads us to believe in, do have fixed volume and surface, there might well be atoms of another sort, equally material, because equally potent in controlling the motion of other atoms, which exercise their powers in many places at once. They might exercise these powers in accordance with precise law, and be as orderly and accountable as the electrons; but they would transcend the usual limits of space and time. As the properties of imaginary numbers ($a + b\sqrt{-1}$, etc.) transcend the properties of positive integers, so would the properties of such bodies far outrun those of ordinary matter. But a universe composed of them would none the less be a material universe, and a philosophy which insists that all reality must be material, whether in this new sense or in the usual sense, would be materialism. It would, however, be a wholly positive materialism, since it did not deny being of a sort which transcends the limits of our usual matter.

Now materialism of the customary kind is eternally right when it insists that every event has a place in space and time and a causal relation with the bodies of our sense-world. The nature of mind, as it unfolded itself to us in our enquiry above, is to have all these. Memories are definitely located in the past and in the present nervous system, perceptions in remote space and in our bodies; affective states are located in our bodies and influence the movements of our bodies. In this sense mind is as solid and as substantially material as the

[1] F. Soddy, *Matter and Energy*, p. 171.

hardest steel; but it is not limited in its occupation of space and time, or in its causal action, as steel is limited. Mind is a kind of matter far less restricted than the matter with which physical science is conversant. But the customary materialism is wrong when it fixes *a priori* upon all reality the limitations of *that* matter. It is wrong when it denies that mind has attributes incompatible with those limitations. Dualism is right in declaring that mind, as compared with the matter of our sense-world, is unique; dualism and spiritualism are quite wrong—as wrong as materialism ever was—when they deny materiality and substantiality to mind. Mind is material, because it displays all the positive attributes of matter; it occupies space and time and it acts upon the external world, it resides in living organisms, and extends itself far beyond the limits of those organisms without losing its place in the latter. In fact, if mind were not material, we should have on our hands that dualism of unlike and incommensurable substances, whose absurdity culminated in the mysteries of parallelism. But it is not the duality of the dualism that is wrong, but the irreducibility of the two members to a common denominator; in a word, the total exclusion alleged to hold between the two.

Our great need in this problem is to liberalize our notions. The present age has many failings—we hold no brief for its superiority over the past—but in one respect we have indeed advanced. We have a tolerance of ideas, of which our ancestors scarcely dreamed. We have learned that the non-Euclidean geometry may not be so axiomatic as it was deemed. We have learned that the mechanical scheme of Newton and Laplace may not be the last word of science. We are told today that bodies may change their dimensions when they change their positions. We have learned to respect the desires of all men, to a degree scarcely conceived since the days of primitive Christianity. But we need to take a further step, and to set free our notion of material reality from the bonds of exclusiveness that still fetter that conception. To weak minds, all this liberality is an overthrowing of self-restraint, of logical and moral control; it seems to imply the pardoning

of criminals, the equal treatment of all men, equal opportunity for every one in every direction, and the other excesses of extreme democracy. But that is of course an error. Toleration does not not mean laxity, nor does generosity counsel a refusal to blame where blame is due; no more does the substantial mind's transcendence of bodily limitations mean that mind has no precise laws of its own. Of course it has such laws; and it is for a spiritualistic psychology, such as Professor Bergson desires, to state them.

The substantiality of mind is more than a word. The notion of stuff conveys the idea of a permanent potency. We call a physical body substantial to signify that even when it is doing nothing, it is ready to exercise force if occasion arises. If then mind is stuff, it is a permanent potency. But the stuff which is mind, though it occupies space and is located in our bodies, cannot be the same identical stuff as the neurones, muscles and other bodily tissues. These, all our experience teaches, have the same properties as the matter of the external world. It is another sort of substance. Since it escapes the observation of our senses, we naturally say that it is finer than what the ultra-microscope reveals. But being stuff, it would seem to be permanent; there is as much ground for believing it to be eternal as for believing physical atoms to be eternal. Hereby mind-stuff becomes a soul-substance, and an imperishable entity. As we saw above, it is always individuated; as we have just seen, it is permanent. Hereby we are able to make a synthesis of the older materialism of Democritus and the Stoics and the individualism of the scholastic theory. And the result of this synthesis is that the individual soul or person, being as substantial as any electron, is as certain to endure. It may be dissociated from this or that living organism, but it can no more disappear than can an ultimate physical atom. We save the soul, not by demolishing or degrading matter, as idealists or spiritualists have been wont to do, but by understanding and respecting matter, and admitting the absolute reality of both matter and mind.

At present the powers of sentient matter are limited enough.

In memory, perception and foresight, it can by extending itself to a remote space or time, do things which a non-sentient matter is unable to do; it can to a degree preserve the life of its body, and order the physical world in the interest of human progress. Mind cannot, however, directly control the future: it must do that through bodily channels. So it is at present; but we must not be dogmatic, like the materialists, and declare that this will always be the case. Quite possibly mind will evolve new powers, as living bodies have done since the dawn of life. Already there are so many authenticated instances where one mind seems to act directly upon another, in what is called telepathy, that such evolution seems to have begun. It appears now to be possible for one mind-substance to extend itself directly into another. What further powers may be evolved is not our immediate concern; but we do not hesitate to say that the open-mindedness which has characterised many of the members of the S. P. R. is far preferable to the closed circle of our professional philosophy, which either encourages or fears the scientific materialism of the day.

W. H. SHELDON.

YALE UNIVERSITY.

THE PARADOX OF THE THINKING BEHAVIORIST.

OUR gusty realms of philosophy and psychology are at present considerably agitated by the wind of doctrine known as behaviorism. Having grown rapidly from a working theory of psychological method to a kind of metaphysics, the behavioristic creed seems to be gaining acceptance in several quarters; and it has also lately been honored with a good deal of serious criticism. An entire session of last year's International Congress of Philosophy at Oxford was devoted to debate on a single phase of it. That and other recent discussions of the subject present many acute and searching comments on the theory; but none of those which I have happened to read seem to me to go quite to the root of the matter. There is, I think, a difficulty in behaviorism more fundamental and (as I should have supposed) more glaringly evident than any that, so far as I have observed, have hitherto been dwelt upon;[1] and it can be exhibited wholly from what may be called the inner point of view of behaviorism itself. All of the premises, in other words, of the criticism which I am about to set forth are premises which it would seem that the behaviorist accepts. I should hesitate to present considerations so obvious as those which follow, if it were not apparent that they have eluded many contemporaries.

The criticism has to do with the behavioristic account of perception and thought. In spite of the plain language usually employed by behaviorists, that account has sometimes been misunderstood. It is therefore necessary to begin with a brief summary of it, as it is set forth by its principal author and best qualified expounder, Dr. J. B. Watson. Thinking and perceiving, Watson tells us, are, like any other phenomena dealt with by psychology, to be defined entirely in terms of behavior; behavior means simply responses to stimuli; and by response

[1] The same difficulty was, however, briefly and insufficiently indicated by the present writer some years ago in "The Existence of Ideas," *Johns Hopkins University Circular*, 1914, No. 263, pp. 71–3.

the behaviorist means solely "the total striped and unstriped muscular and glandular changes which follow upon a given stimulus." The muscles primarily concerned in perceiving and in thinking are the same, *viz.*: "the laryngeal, tongue and speech muscles generally." In the case of perception the verbal response may be (though apparently it need not be) "overt," *i.e.*, it may consist in actual speech. Perceiving a thing, in short, is identical with the motion of the muscles involved in uttering its name. In thinking, however, and often, no doubt, in perception, the response is "implicit," *i.e.*, it is not actually observable as a muscular movement by the psychologist or, as a rule, by the subject. Arguing from the analogy of other processes—and also, it must be added, driven by the requirements of the general theory which he has embraced—the behaviorist "assumes" that when a man is said to be "merely thinking" his muscles "are really as active as when he is playing tennis." In either perception or thought the entire body is doubtless involved in some degree, as it is in all behavior; and in deaf and dumb persons, or those whose larynx has been removed, the usual functions of the laryngeal muscles are "usurped by the fingers, hands, arms, facial muscles, muscles of the head, etc." But in any case it is to some complex of movements of the muscles constituting, for the organism concerned, a language-mechanism, that those mysteries of the older psychology, perception and thought, are reduced.

It is, the behaviorist observes, characteristic of the adult human organism that by far the greater number of the stimuli which affect it evoke first this peculiar type of muscular response, either in the implicit or overt form. The response is of course, a habit acquired through the usual process of learning by trial and error. The implicit movements of the language mechanism sometimes, as in day-dreaming, run through a relatively self-contained course to a terminal stage of fatigue or satiety, and change of activity;[1] they sometimes, and doubt-

[1] Thus the behaviorist is not bound to maintain that the process to which he gives the name of 'thinking' is always 'practical,' in the sense that the implicit movements of the language mechanism always issue in overt and definite movements of adjustment. In other words, though pragmatists mani-

less usually and normally, release other muscular processes, which through habit have become associated with the first, and thus eventuate in more or less adaptive behavior of the grosser musculatures or of the body as a whole. When we are said to 'solve a problem by thinking,' we are merely going through a habit-acquired sequence of responses, which begins with implicit behavior of the language-mechanisms and ends in some relatively unobstructed form of overt behavior. Nothing happens from first to last but displacements of muscle-fibre (with, of course, the concomitant chemical and physical changes in the vascular, digestive, and glandular systems). The only difference, for the behaviorist, between the 'thinking' involved in, *e.g.*, forming what is commonly called a plan of action, and the activity by which the plan is carried out, lies in the position and extent of the groups of muscles, and in the magnitude of the movements, concerned in the two processes. It is not merely that certain muscles are the organs of thought; what the behaviorist maintains is that the minute changes of relative position of these muscles *are* 'thought,' and that beyond these nothing is to be observed in the human organism to which the term can be applied.

With this, of course, images and ideas, as well as 'mind,' 'consciousness,' and other familiar categories of the older psychology, are eliminated from the descripitve analysis of perception and thought. "I should throw out imagery altogether," writes Watson. "I believe we can write a psychology and never use the words consciousness, content, introspectively verifiable, imagery, and the like."[1] The researches of Angell and Fernald (aside from other considerations) "pave the way for the complete dismissal of the image from psychology."[2] And this does not mean that these things are merely to be excluded from consideration for reasons of methodological convenience;

fest a strong propensity to become behaviorists, it is not logically necessary for the behaviorist to be a pragmatist. He can, after a fashion, find a place in his scheme of things for 'pure thought,' *i.e.*, for 'implicit behavior' which is carried on for its own sake, and is not merely instrumental to the 'overt' variety.

[1] "Psychology as the Behaviorist views it," *Psychol. Rev.*, 1913, pp. 176, 166.

[2] *Behavior*, 1914, p. 18.

it means that we have no reason to believe in their existence, that they are not verifiable facts of experience. Those who "grope in a laboratory to discover the 'images' that the introspective psychologist talks about" will find nothing but processes in the larynx. "It is," Watson declares, "a serious misunderstanding of the behavioristic position to say," as one would-be expositor of it has said, "that of course a behaviorist does not deny that mental states exist. He merely prefers to ignore them." He ignores them, Watson explains, "in the same sense that chemistry ignores alchemy and astronomy ignores horoscopy. The behaviorist does not concern himself with them because, as the stream of his science broadens and deepens, such older concepts are sucked under never to reappear."[1]

It is true that in some of his earlier statements of his position Watson sought to avoid facing the existential question. He refrained both from denial and from affirmation of the reality of purely psychic existences, and was content to argue that, if such an inner or mental world exists, it is not, at any rate, accessible to a strictly 'scientific' type of observation and experiment. But it was manifestly impossible for the behaviorist to remain at such a half-way house. His repudiation of the introspective method, the root of his entire doctrine, could not be justified, unless the belief in the existence of sensations, images, and the like, were definitely excluded. For if material of this sort, observable through introspection and through introspection alone, exists, the legitimacy, and even the necessity, of an introspective psychology cannot seriously be denied. If it is conceded that a certain defined type of phenomena is actual, and that it is accessible only through a special method of inquiry, it is certain that science cannot refuse to study those phenomena or to employ that method. The inquiry may be difficult, and the results hitherto attained by it unsatisfactory; but that, to the genuine man of science, is no reason for discontinuing the investigation. The thesis of the non-existence of images was, therefore, implicit in the behavioristic psychology from the first; and the later developments of the doctrine are entirely consistent in making it explicit.

[1] *British Jour. of Psychology*, Oct., 1920, p. 94.

Thus the behaviorist and his critics usually differ first of all upon a simple question of empirical fact. The critic asserts that a given kind of thing, commonly called an image, is actually found in his experience, is a directly observable datum; the behaviorist replies that the critic cannot have observed it, for there is nothing of the sort there to be observed. Now, if the issue turned wholly upon this disputed question of fact, it would be a logically embarrassing one to deal with. How argue from a fact, when the person whom you are seeking to convince denies that it is a fact? The behaviorist's attitude towards his critic is similar to that of the Christian Scientist. The latter meets the objection to his optimism drawn from the existence of pain by denying that pain is a reality. Doubtless in doing so he denies what others are certain that they have actually experienced; but he, for his part, is satisfied to hold that all the rest of mankind are mysteriously in error, perhaps through the agency of malicious animal magnetism. So Dr. Watson; if others protest that they have percepts or images, he simply tells them that they are mistaken, and renders this assurance more plausible to himself, if not to them, by assuming that their belief is due to religious or quasi-religious bias. "The motive," for example, behind a certain view of Wm. James's is, for Watson, "not difficult to find. It is the motive behind the resistance to the behaviorist's view of thought and its roots lie in mysticism and early religious trends." [1]

Now, so long as the argument is limited to these dogmatic assertions and denials on the question of fact, no logical progress towards a conclusion is possible. Neither side can by such means either convince or confute the other. Some critics of behaviorism have, nevertheless, simply pitted their assertion of the existence of images against the behaviorist's denial. It is chiefly this method of argument that Mr. Bertrand Russell employs in his discussion of the behavioristic theory of thought in his *Analysis of Mind*. Mr. Russell seems, antecedently, favorably disposed towards behaviorism, and certainly cannot plausibly be charged with an antipathy to it due to religious

[1] *British Jour. of Psychol.*, Oct., 1913, p. 99.

prejudice. He incorporates some of its subsidiary doctrines in his restatement of his own psychological and epistemological position. But he declares that in denying the reality of images Watson "has been betrayed into denying plain fact in the interest of a theory." Professor Pear, likewise, in the discussion at the Oxford Congress of Philosophy, rested his case largely, though not wholly, upon the contention that "Watson has not adduced sufficient evidence to bring about the abandonment of the study of 'imagery' by 'introspection'"[1] Watson would doubtless reply that one does not, strictly speaking, "adduce evidence" of the non-existence or non-observableness of a thing, and that from his point of view the burden of proof rests wholly upon the other side.

Is there, then, no way of dealing with the issue except by appealing to conflicting reports of direct personal experience? Dr. Watson himself has indirectly suggested an obvious change of venue which the behaviorist would be willing to accept. "Since," he writes, "our assumed explanation [of the nature of 'thought'] is simple and straightforward and adequate to account for all the facts and is in line with what can actually be observed in other activities, the law of parsimony demands that the upholders of 'imagery' and 'imageless thought' should show the need of such 'processes' and demonstrate objectively their presence." The behaviorist, then, is open to a conviction of error, if a pertinent fact can be pointed out which his 'explanation' is not adequate to account for. Only, it must be a fact which he himself admits to be a fact, and not one which he denies. Now, such a fact can very easily be pointed out. It is the fact that the behavioristic psychologist himself exists. For a behavioristic psychologist (*a*) is a human organism, (*b*) whose perceiving and thinking, if his own theory is correct, should be exhaustively describable in terms of movements of his laryngeal and related muscles, but who (*c*) in fact thinks, or professes to think, of external objects and stimuli, that is, of entities outside his body, (*d*) which thinking is obviously

[1] *British Journ. of Psychol.*, Oct., 1920, p. 76.

neither describable as, nor 'accounted for' by, movements of his laryngeal or other muscles inside his body.[1]

The simple fact to which I invite the behaviorist's attention is, I have said, one which he himself admits. He will certainly not deny that he 'observes,' and thinks of, things not contained within his own skin; he cannot take the first step in the formulation of his own account of the antecedents and determinants of bodily behavior without making this claim for himself. (He need not, it is true—in logical strictness—attribute a similar accomplishment to anyone else). Mr. Arthur Robinson has quite precisely characterized the procedure of behaviorism, when he says that "consciousness plays no part in it—*except the part it plays in relation to all science,* that is, external to and non-constitutive of its object—or, in other words, *it means the awareness of the investigator.*"[2] But "investigators" happen to be among the "objects" to which the science of psychology relates; and the "awareness of the investigator," even of one investigator only, is sufficient to disprove the contention that no such phenomenon as awareness is to be found. And, of course, it is precisely to this that the behaviorist's contention comes. What he maintains, as we have seen, is that perceiving or thinking *is* a movement of certain muscles; that it is nothing more than this; and that no terms beyond those requisite for fully describing the movements of those muscles (with connected chemical changes) are needed in giving a complete account of what happens when perception or thought is going on. But, in fact, you obviously may describe muscular movements, *as* movements, to the *n*th degree of minuteness and you will have said no word suggesting that the organism in which they occur is also apprehending objects external to itself, and is aware of stimuli which are antecedent in time to the muscular processes which they excite. The behaviorist, then, asserts the identity of two things which are not

[1] Certain other arguments presented by Mr. A. S. Otis in *Psychol. Rev.*, Nov., 1920, and those advanced by Professor Calkins (*Psychol. Rev.*, Jan., 1921) also, as it seems to me, bring out conclusive objections to behaviorism; but it does not fall within the purpose of this paper to consider these other difficulties, which appear to me less fundamental.

[2] *Brit. Jour. of Psychol.*, Oct., 1920, p. 83; italics mine.

describable, and which he does not attempt to describe, in identical terms. He identifies thinking with a process which, by definition, does not do what thinking does—what, at any rate, his own thinking definitely claims to do. Thought constantly deals with the distant in space and with the remote in time; but the movements of the "language-mechanisms" in which the thought of a given moment is supposed to consist are strictly intra-corporeal and are limited to that moment. The behaviorist's laryngeal muscles, when he is thinking of an object at the other end of his laboratory from which he is receiving visual or auditory stimuli, do not leap through space and lay hold upon the object; and if they did, it would make no difference. Nothing whatever, upon behavioristic principles, would have happened except the shifting of certain molecules from one spatial position to another; and there is nothing in the shifting of a set of molecules which in the least resembles what we mean—and what the behaviorist manifestly means—by a knowledge of the existence, or of the qualities, of bodies not identical with those molecules.

Though I have, to avoid confusing issues, thus far limited myself to pointing out the inconceivability of the apprehension of external objects, if the behaviorist's description of thinking were accepted, it is, of course, equally true that he can profess a knowledge even of his own muscular movements, 'overt' or 'implicit,' only by claiming for himself a power which he at the same time denies to all organisms including himself. For the mere occurrence of a muscular contraction within my body is not equivalent to an awareness of that occurrence. Here, as before, we must say to the behaviorist: 'You have but to look at the meaning of your own assertion to see that it contradicts the fact. Let your description of the muscle-contraction, strictly as such, be as exhaustive as you please, there would be in it nothing to indicate that, besides the spatial displacements of various fibres, there is also involved an awareness of that displacement.' The awareness is always an additional fact; that it is so even the behaviorist of the straitest sect is constrained at times expressly to admit. For he is,

necessarily, unable to dispense with the distinction between muscular movements of which the subject is aware and those of which he is not aware—at least when the psychologist is himself the subject. I quote the whole of a remark of Watson's from which I have already cited a phrase: "I should throw out imagery altogether and attempt to show that practically [?] all natural thought goes on in terms of sensori-motor processes in the larynx, *which rarely come to consciousness in any person who has not groped for imagery in the psychological laboratory.*"[1] Yet, a few pages earlier in the same paper, Dr. Watson had proclaimed the possibility of writing a psychology "without ever using the word consciousness"! The use of it here is, however, no casual inadvertence; the entire distinction between 'overt' and 'implicit' behavior depends upon the assumption that there are some muscular processes of which somebody—either the subject or the observer—is conscious, and others of which neither is habitually or directly conscious, and which, therefore, can only be inferred by analogy.

The same distinction between the subject's muscular activity and his awareness or observation of that activity appears in Dr. Watson's contribution to the discussion at Oxford. Speaking of a certain series of experiments he says: "The subject himself could observe during the apparently immobile period that he used words and sentences (and that for a part of the time he did not know what he was using!)." Here we have a subject who simultaneously is doing two things; he is using words and sentences and he is also 'observing' that he is using them. The two processes are not identical, for one admittedly sometimes goes on without the other. Now what, from the behavioristic point of view—if the behaviorist would but adhere to it consistently—could this 'observing' conceivably be? Obviously only another simultaneous action of the language-mechanism. The subject would be (subvocally) forming two sequences of words and sentences at the same time, presumably with one and the same group of muscles—which I

[1] "Psychology as the Behaviorist Views It," *Psychol. Rev.*, 1913, p. 174; italics mine. The hesitant tone of a part of the sentence is characteristic of this early date in the history of behaviorism; it has now been abandoned.

should suppose to be a matter of some difficulty.[1] And if he is to be supposed capable of 'observing' also the second sequence, it would be necessary that still a third series of movements of the speech-mechanism should be going on; and so on. Meanwhile, none of these muscular movements, however many be assumed to be simultaneously occurring, would amount to an observation of anything; for the motion of a given bit of muscle in one direction cannot intelligibly be said to be an observing of another motion even of the same muscle at the same moment (supposing that possible) in another direction. It cannot even be properly said by a behaviorist that the secondary talking which he calls an 'observation' of the primary talking constitutes speech 'about' the primary talking. For the category of 'about,' the conception of 'reference to,' has no legitimate place in a behavioristic system. It is not a relation definable in physical terms; and all relations not definable in physical terms are (professedly) excluded from the behaviorist's universe. The talking in which he makes both thinking and the observation of it consist would not, in the ordinary sense, have any meaning. To talk does not signify for the behaviorist, so long as he adheres to his principles, to use words to express an awareness of something other than the words; it signifies, once more, nothing but the play of certain complexes of muscles, chiefly laryngeal. If then—to repeat—these muscular (and glandular) changes were all that ever happened in the life-history of a behavioristic psychologist, he would never know that anything of the sort *was* happening. For if a given event is defined as nothing more than an alteration of the position of certain pieces of organic matter, it is *eo ipso* defined as *not* containing or affording a knowledge even of itself, to say nothing of other things.

Of the possibility of the criticism which I have been here

[1] The deaf and dumb, and persons whose larynx had been removed, would be in a still more difficult situation. They could 'observe' one set of movements of their fingers only by simultaneously performing another set. Perhaps it will be suggested that the 'observation' may consist in a *subsequent* motion of the language-mechanism. But it is, if possible, still more unintelligible to speak of the muscular movement of a given moment as an 'observing' of another, no-longer-existent, movement.

presenting, *viz.*, that the behaviorist's logical procedure is vitiated by his failure to take account of himself, Dr. Watson is, it would seem, not wholly unaware; for he has more than once dwelt upon certain considerations which are probably regarded by him as a reply to this criticism. If, he remarks, you ask a physiologist or a physicist at the conclusion of an investigation, "'Did you realize that there was an observer implied during all your manipulations?' he would probably not know what you meant, and he would certainly be mildly angered if you happened to interfere during his working moments with such a question. . . . He gets along without discussing or ever being interested in the fact that there is an implied observer at every moment in science, and that a thousand interesting metaphysical points lie behind an individual's ability to make observations. The behaviorist likewise shuts his eyes to the same metaphysical questions, and asks only to be allowed to make observations on what his subjects are doing under given stimulating conditions."[1] Even as a description of the procedure of the physical sciences this passage is clearly an overstatement; it would, I suspect, somewhat astonish an astronomer. Most astronomers, for example, are, I gather, pretty well agreed that the ingenious reasonings of Mr. Percival Lowell concerning the 'canals' on Mars were entirely invalidated by his failure constantly to remind himself that there was an observer implied during all his observations. This, however, is not the point with which I am here concerned. I have quoted the passage in order to make clear that it is entirely irrelevant to the objection to behaviorism which I have been setting forth. No one desires to prevent the behaviorist from "making observations upon what his subjects are doing"; what one insists upon is precisely that he shall not dogmatize about one of the subjects of his science, namely himself, without first observing what *that* subject is doing when it *is* observing—that he shall not set up a generalization covering, along with others, a given class of organisms (behavioristic psychologists and, by probable implication, others of the same animal species), which general-

[1] *British Jour. of Psychol.*, Oct., 1920, p. 94.

ization conflicts with the obvious and admitted facts about that particular class. The analogy of the other sciences clearly points to a conclusion precisely opposite to that which Watson seeks to justify. A physiologist, for example, uses a microscope in making his observations. It is doubtless not necessary that he should be constantly reflecting upon this fact, while the observations are in progress; yet he is at least so far mindful of it that he is prevented from asserting that no organism exists which is capable of improving its vision by artificial lenses. But it is to an assertion entirely parallel to this that the behaviorist is committed. Watson himself somewhere acknowledges that his generalization respecting the nature of 'thought' must include his own thought; "the behaviorist himself," he writes, "is only a complex of reacting systems, and *must be content to carry out his analysis with the same tools which he observes in his subjects.*" Yet he is, in reality, not for a moment content with this; he is, we have seen, manifestly engaged at every stage of his scientific activity in using tools of which he denies the existence, both in his subject and in himself.

The behaviorist, then, can avoid contradicting himself in this fashion only by abandoning his unbehavioristic pretensions to knowledge, by casting the notions of awareness of stimuli, of observation of objects, and of judgments about facts, into that stream which, as he has assured us, has already "sucked under" numerous kindred concepts. The idea of cognition, of any kind and by any knower, is wholly alien to the psychology of behaviorism. It is an understatement of the fact to say merely, as does one of the participants in the discussion at the Oxford Congress: "The crucial divergence from the current view lies in this, that Professor Watson holds it irrelevant to inquire whether, when an organism responds, the stimulus responded to is in its field of consciousness or not. It makes no difference from this point of view, whether the organism does or does not know what it is doing."

The inquiry is not, for the thorough-going behaviorist, simply irrelevant; it is answered with a definite negative. If perceiving and thinking are what Watson says they are, and nothing

more, no organism can ever know either what it is doing or what object evokes its response; and therefore no psychological investigator can possess such knowledge.[1] The only consistent behaviorist would be one who knew nothing whatever —who at no moment of his existence could do more than relax or contract his muscles, without being aware that he was doing so. And to maintain even a decent semblance of consistency the behaviorist should at least refrain from professing to know anything. Behaviorism, in short, belongs to that class of theories which become absurd as soon as they become articulate. The Paradox of the Thinking Behaviorist deserves to take its place in the logic-books beside that of Epimenides the Cretan, to which it is closely related.

ARTHUR O. LOVEJOY.

JOHNS HOPKINS UNIVERSITY.

[1] A similar consequence, however, obviously follows even from the less extreme position mentioned. If the behaviorist merely refuses to assert that any organism is aware of objects or of its own activities, he must refuse to assert this of himself.

SOME TENDENCIES OF OPINION ON OUR KNOWLEDGE OF OTHER MINDS.

THINGS and minds both compel us to adjust our actions to them: we have to reckon with tax-collectors, with fanatics, with people who love us and people who hate us, just as we have to reckon with rocks and trees and rain, with tempest, fire and flood. We succeed, if only partially, in knowing both; if there were no such knowledge there would be no such effective adjustment as we are able to make. Inquiry into this process of knowing has centered more on the thing than on the mind or person. Thought has been occupied more with our perceptions of things than with our apprehension of minds. One reason for this preoccupation with perception may have been the notion, unconscious or explicit, that it was the key to the apprehension of minds.

"Thus, little by little," wrote St. Augustine, "I became conscious where I was; and to have a wish to express my wishes to those who could content them, and I could not; for the wishes were within me, and they without; nor could they by any sense of theirs enter within my spirit. So I flung about at random limbs and voice, making the few signs I could, and such as I could, like, though in truth very little like, what I wished."[1] From the days of St. Augustine to these, thought has constantly reiterated the mediation of gesture in the knowledge of one mind by another. Gesture, be it remembered, includes spoken words, which are gestures by the lips, and written words, which result from gestures by the arm and hand. "Deep feeling," writes Yeates, "is expressed by a movement of the whole body":[2] a perception of a thing, a human body, mediates knowledge of the feeling in a mind. When the body gesticulates with a few members only, or with one, knowledge of a mind is still mediated by perceptions of external things. It is natural

[1] *Confessions*, 1, 8.

[2] *The Cutting of an Agate*, p. 9.

to bear the weight of discussion on the nature of perceptual knowledge when this is regarded as the pathway to the knowledge of minds. The perplexities of the problem of perceptual knowledge, for thought has circled inconclusively round this problem since the days of Descartes and before them, have probably detained thought in this region of the theory of knowledge. Utterances on our knowledge of other minds have been, for the most part, occasional and merely reiterations of the mediating function of perceptions.

"In our objective analysis of other or foreign minds . . . all our knowledge of their operations is derived, as it were, through the medium of ambassadors—these ambassadors being the activities of the organism."[1] This ambassadorial function of gesture and action, emphasised by Romanes, is the natural conclusion of common sense and has been central in all estimates of the method of communication between minds. Absolute unanimities are few and common sense, "the customary, universal view of experience which we rely upon because it is shared and 'common,'"[2] is invited today to believe that telepathy can dispense with the ambassadorial intervention of the body. Common sense is also being similarly solicited by realistic theories of knowledge: "our knowledge of other minds," writes Mrs. Duddington, "is as direct and immediate as our knowledge of physical things."[3] She does not expel ambassadorialism, as this quotation might suggest, but supplements it with a second method of direct apprehension, for she adds, retaining ambassadorialism as a method of mental intercourse, "interpretation of signs is closely interwoven with direct apprehension and is often the means whereby such apprehension is possible."[4] The ambassadorial estimate of knowledge of other minds, retained today and in the past even when intermental knowledge is credited with an extra power of direct apprehension, is the traditional and normal estimate. There has been deviation, as there is always deviation from any concensus of opinion, but the tra-

[1] *Animal Intelligence*, Ed. 2, Introd.
[2] Findlay: *An Introduction to Psychology*, p. 13.
[3] *Our Knowledge of other Minds:* Proc. Arist. Soc., 1918–9.
[4] *Ibid.*

ditional, normal utterances on the knowledge of minds by others assume a necessary, fundamental ambassadorialism by bodily movement or gesture.

The traditional, normal version of this fundamental and necessary ambassadorialism rests our knowledge of other minds on analogy. Huxley reiterated this traditional version by asking "what is the value of the evidence which leads one to believe that one's fellow-man feels?," and replied, "the only evidence in this argument from analogy is the similarity of his structure and of his actions to one's own."[1] Thomson quotes another repetition of this traditional doctrine from Bethe: "Every statement that another being possesses psychic qualities *is* a conclusion from analogy, not a certainty, it is a matter of faith."[2] Tansley confirms tradition and common sense: "It is only of his own consciousness that the psychologist can have any direct first-hand knowledge," though "he can obtain indirect knowledge of the minds of others."[3] Bergson seems to confirm them when he writes, "To know with scientific certainty that another being is conscious, we should have to enter into it, coincide with it, be it," and adds that the probability of analogy amounts to practical certainty in numerous cases.[4] Lossky criticises the argument from analogy to "the knowledge of an external world consisting of other selves" as a standardised belief to be dislodged in favour of his "Intuitive Basis of Knowledge."[5] We seem constantly to infer, because we ourselves weep when we are sad, that others are sad when we see them weep. It seems obvious to common sense that we do infer and only infer, from our mental states associated with our own action, similar mental states in others which are associated with their similar actions. This preliminary obviousness has been unquestionably approved by reflection and firmly settled into the status of standard opinion.

The fluctuations of thought have, however, been registered in

[1] *Critiques and Addresses*, p. 282.
[2] *The System of Animate Nature*, p. 178.
[3] *The New Psychology*, p. 10.
[4] *Mind-Energy:* Carr's Translation, pp. 6–7.
[5] *The Intuitive Basis of Knowledge:* Duddington's Translation, pp. 41–43.

opinion on the method of knowing between minds. The analogical estimate of this method does not fit into all theories of knowledge, and the theory of mind-knowledge has been compelled to conform to the theories of thing-knowledge. It is probably quite correct to say that theories of knowledge have always been primarily dependent on estimates of the nature of the perceptions of things: philosophers have adapted their explanations of knowing between minds to their explanations of knowing by minds of things. Whenever the current of thought flows in a realistic direction 'analogy' tends to disappear from the description of knowledge of other minds. It disappeared when Reid's mind became a channel for such a current; also, it obviously disappeared because minds had to be known in the same way as things. "The best reason we can give," he writes, stating the standard analogical estimate of the process of knowing other minds, "to prove that other men are living and intelligent is, that their words and actions indicate like powers of understanding as we are conscious of in ourselves." It is the "best reason" if we deny the existence of a "natural conviction" by which young children "are convinced that those with whom they have (this) intercourse are intelligent beings." Reid moves circumspectly away from the analogical estimate: "By what means, or upon what occasions," he adds, "Nature first gives this information to the infant mind, is not easy to determine." Perhaps he may be justly accused of some ambiguities through his circumspection, but he does move away from it. "That many operations of the mind have their natural signs in the countenance, voice and gesture" is an item in the analogical estimate, that "we understand the significations of these signs, by the constitution of our natures, by a kind of natural perception similar to the perceptions of sense," assigns to knowledge of other minds a greater directness and immediacy than that estimate allows. Reid, indeed, might have claimed for his exclusion of the analogical inference a devolution upon bodily gesture and action of a truly ambassadorial function. An ambassador actually conveys the opinions of his own countrymen to those who receive him: he does not leave them to

be inferred. Reid regarded "certain features of the countenance, sounds of the voice, and gestures of the body" as, to borrow a term from Strong, "vehicles"[1] to convey to one mind "certain thoughts and dispositions of another." He definitely compares the apprehension of minds to the perception of external objects: "When I grasp an ivory ball in my hand, I feel a certain sensation of touch. In the sensation there is nothing external, nothing corporeal. The sensation is neither round nor hard; it is an act of feeling of the mind, from which I cannot, by reasoning, infer the existence of any body. But, by the constitution of my nature, the sensation carries along with it the conception and belief of a round hard body really existing in my hand." He thought, it seems clear, that in sense-perception the properties of physical objects are 'vehicularly' conveyed by sensations into the perceiving mind, which perceives them immediately or intuitively. Gesture, it is clear he also thought, opens minds to immediate apprehension by others, as sensations open physical objects to immediate perception: "In like manner, when I see the features of an expressive face, I see only figure and colour variously modified. But, by the constitution of my nature, the visible object brings along with it the conception and belief of a certain passion or sentiment in the mind of the person." Experience confirms the immediacy of mind-knowledge, for "*the first time* one sees a stern and fierce look, a contracted brow, and a menacing posture, he concludes that the person is inflamed with anger."[2] His theory of sense-perception had its natural result in a theory of mind-perception, as it had another natural result in his theory of the apprehension of beauty. Reid bequeathed an epistemological problem in his "constitution of our natures," for such 'constitution' may predispose to an 'ideal' version of reality, or even to an 'ideal' creation of it, just as easily as it may prepare the mind for an immediate apprehension of either things or minds. But there can be no doubt that Reid *intended* to admit the apprehending mind to a direct vision of other minds through ambassadorial gesture and action.

[1] *The Origin of Consciousness.*

[2] *Essays on the Intellectual Powers:* Essay 6, Ch. 5.

The central position in thought of the analogical estimate of mind-knowledge kept Berkeley in its neighbourhood: ". . . as we conceive the ideas that are in the minds of other spirits by means of our own, which we suppose to be resemblances of them; so we know other spirits by means of our own soul—which in that sense is the image or idea of them."[1] We only know other spirits, he continues, by their operations or by the ideas they excite in us, and our knowledge of them is not immediate.[2] Ambassadorialism still prevails and so does the analogical estimate. Berkeley's emphatic idealism suffused quaintness, if not actual confusion, into his scattered references to mind-knowledge. "My own mind and my own ideas I have an immediate knowledge of; and by the help of these, do mediately apprehend the possibility of the existence of other spirits and ideas."[3] The standard analogical estimate affirms that we apprehend 'ideas' in other minds through their existence in our own. Berkeley recognised the other term in the analogy—gesture and action. ". . . The passions which are in the mind of another are of themselves to me invisible. I may nevertheless perceive them by sight, though not immediately, yet by means of the colours they produce in the countenance. We often see shame or fear in the looks of a man, by perceiving the changes of his countenance to red or pale."[4] Now "the changes of his countenance" were for Berkeley, like all "ideas imprinted on the senses,"[5] "ideas" in the mind of God. Thus we infer from previously experienced 'ideas,' through 'ideas' in the Divine Mind, to 'ideas' in other minds: divine 'ideas' replace physical gesture and action. This transformation of the 'other term' laid the route to knowledge of other minds through knowledge of the Divine Mind. The ambassadors are metamorphosed from activities of the organism into 'ideas' in the Divine Mind: the old form of the analogical estimate receives a new content.

[1] *A Treatise Concerning the Principles of Human Knowledge*, § 140.
[2] *Loc. cit.*, § 145.
[3] *Third Dialogue Between Hylas and Philonous.*
[4] *An Essay Towards a New Theory of Vision*, § 9.
[5] *Principles of Human Knowledge*, § 1.

This metamorphosis tends to dissolve away the original analogical method: the old form begins to yield before the pressure of the new content. The analogical method is virtually deserted in knowledge of the Divine Mind, and Berkeley inevitably affirms that God's existence is more evidently perceived than the existence of man.[1] The idealistic current of thought, like the realistic, contains a tendency to transform mediacy of mind-knowledge into immediacy.

The hints gathered from a survey of Reid and Berkeley enlarge into a perception of a permanent restlessness of thought. An analogical estimate of our method when we know one another's minds is the first opinion of common sense, and reflection has centralised it as a fixed tradition in thinking. But discontent with this tradition pervades the thought of the day. A general restiveness under the domination of the analogical estimate has multiplied the deviations towards immediacy in mind-knowledge so apparent in the realism of Reid and the idealism of Berkeley. These deviations towards immediacy are the most significant intimations of restiveness under the domination of the analogical estimate, but there is one other marked direction of retreat from it.

The mutual approach between biology and psychology has, in one direction, brought fresh convictive force to the analogical estimate. Attempts to understand the mental life of animals emphasise the necessity for depending upon their actions to interpret their minds. The great likenesses between men, common human similarities of structure and behaviour, push into the background the dependence of mind-knowledge upon interpretation of gesture or action. The wide difference between a man and an amœba drags this dependence into the foreground. The difficulty of understanding how animals, diverse from us in form and habit, feel or think, or of knowing whether they feel or think at all, presses upon us the analogical nature of our interpretations by diminishing the completeness of the analogy. The analogy is very complete when we infer, or seem to infer, from our own tears when we are sad to the sadness of another

[1] *Principles of Human Knowledge*, § 147.

when he weeps because we are all so alike; it is very incomplete when we try to gather a lobster's notions from its actions because we are so different from it. This incompleteness enjoins circumspection; and this circumspection, by constantly reminding us of the analogy inherent, or seemingly inherent, in our interpretation of mentality, confirms the analogical estimate of our knowledge of other minds.

The prominence thus imposed upon the 'ambassadors,' the activities of the organism, has, however, had a curious result in 'behaviorism.' Immediacy of knowledge, which appeared in Reid by confining the ambassadors to a strictly vehicular rôle, is sought by attending only to them and ignoring their message. "One of the lower animals," writes Thorndike, "is so obviously a bundle of original and acquired connections between situation and response that the student is led to attend to the whole series-situation, response and connection or bond—rather than to just the conscious state that may or may not be one of the features of the bond."[1] When he adds, "Psychology may be, at least in part, as independent of introspection as physics is,"[2] he hints at a possible eclipse by 'behaviour' of the mind behind the behaviour. He proceeds to stake out a way for thought to merge 'mental facts' in the immediacy, relative or absolute, of 'physical facts' when he affirms that judgments about toothache, deliberate reports by the sufferer or based on his undesigned gesticulatory intimations, differ only in degree from statements about the height of a mercury thread in a thermometer.[3] He quotes with approval from Santayana: "As the weather prophet reads the heavens, so the man of experience reads other men. Nothing concerns him less than their consciousness; he can allow that to run itself off when he is sure of their temper and habits. A great master of affairs is usually unsympathetic . . . his observation . . . is straight calculation and inference."[4] The man of affairs has no eye for the psychic states of his victims; if he, in addition, has no eye for his own,

[1] *Animal Intelligence*, p. 4.
[2] *Ibid.*, p. 5.
[3] *Ibid.*, p. 12.
[4] *Ibid.*, p. 19.

the analogical estimate of the method of knowing other minds disappears in a process of knowing which is directed solely on physical processes. Sidis quotes from Watson a statement which reduces even the psychologist to this condition: "Possibly the most immediate result of the acceptance of the behaviourist's view will be the elimination of self-observation and of the introspective reports resulting from such a method."[1] This exterior view of human life is favoured by sociological psychology. Thus Ellwood emphasises social intercourse as conduct, insists on the primacy in psychology of biological laws governing behaviour and denies the importance of analysing consciousness.[2] Bertrand Russell, referring to this behaviourist tendency of ignoring that there are any minds to know, remarks that introspection is opposed more explicitly because its data are private and, less explicitly, because it is irritating to recognise things which do not obey physical laws.[3] The precariousness of analogy haunts the analogical estimate of mind-knowledge like a spectre. The behaviouristic preference for ignoring psychic states or for reducing them to the status of a behaviour which can be as public as a pebble is one mode of departure from mediacy in knowing one another's minds towards immediacy.

Behaviourism seems to have reacted to its utmost along its own line of movements from the analogical estimate of mind-knowledge in Watson's recent *Psychology from the Standpoint of a Behaviorist*. Reviewing this volume, Wildon Carr twits behaviourism with its postulate that psychology can study nothing but behaviour. Physiology, so runs its creed, studies the response of part of an organism to its environment; psychology studies the response of the whole organism. "The essence of Behaviourism," adds Carr, "is to translate the mental into terms of bodily integration and leave it there, satisfied that the work of psychology is now done."[4] One common element may make bedfellows of very different conceptions. Solipsism and behaviourism both relieve knowledge of other minds from any risk

[1] *The Foundations of Normal and Abnormal Psychology*, pp. 43–44.
[2] *Sociology in its Psychological Aspects*, Ch. 6.
[3] *Problems of Science and Philosophy*: On Propositions.
[4] Review in *Nature*, June 24, 1920.

of being mediate or analogically derived. Solipsism avoids it by placing everything within the knowing mind; behaviourism by denying that there are any minds, or at any rate any conscious minds, to know. Behaviourism is as manifestly a child of the present realistic passion in thought as solipsism is manifestly the child of an idealistic passion. Realism demands publicity for realities; behaviourism, disliking the privacy of conscious states which restricts their accessibility to an analogical inference, identifies them with gestures and movements which suffer no such restriction.

Our knowledge of other human minds seems to be too certain to be only the fourth inferred term in an analogy with three other known terms. But escape from this apparent precariousness is sought more universally by Reid's method of transforming mediacy into immediacy than by the drastic behaviourist plan. "All honour," writes Marett, "be to Sir James Frazer for never losing sight of the truth that the ultimate aim of folk-lore and of its ally, social anthropology, is to illustrate and explain the working of the human soul."[1] He protests that, though sociology can, even usefully, limit itself to an exterior view of human life, it has no right to impose this limited view on folk-lore.[2] This exterior view of human life is reflected in tendencies to assimilate the collective mind of a group to the single mind of an individual. If observing habits is studying the mind, the behaviour of a group or crowd entitles it to a soul as much as the behaviour of a single person entitles him to one. McDougall thinks "we may fairly define a mind as an organised system of mental or purposive forces."[3] Since any society is literally a more or less organised "mental system"[4] the "conception of a group mind is useful and therefore valid"[5] though "a unitary consciousness of the society over and above that of the individuals comprised within it" must be provisionally rejected.[6] Miss Edgell, reviewing McDougall's *The Group*

[1] *Psychology and Folk-Lore*, p. 4.
[2] *Ibid.*, p. 11.
[3] *The Group Mind*, p. 9.
[4] *Ibid.*, p. 11.
[5] *Ibid.*, p. 8.
[6] *Ibid.*, p. 9.

Mind, remarks: "The biological conception of an organism applied to mental life might describe the unity from the standpoint of the spectator, even in the case of multiple personality, but it fails to express the unity of individuality from the standpoint of the individual. For the individual there must be the unity of self-consciousness."[1] Sorley believes that "the idea of the self is founded upon immediate experience as a unity or whole of conscious life."[2] Where there is introspection there is a mind to be known; and Sorley represents the still predominant belief that minds introspectively acquainted with their private selves have knowledge, in some way, of one another. He is still faithful to the standard analogical estimate of the method of knowledge between minds: "Our knowledge of other men starts from the same point as knowledge of inanimate things, that is to say, it is mediated and conditioned by sense-perception." Knowledge of inner lives of others, he adds, depends upon expressions of those lives as they come before us in perception.[3] But there are others who are as convinced as Mrs. Duddington of its inadequacy, though they may not, with her, admit that realism can draw no antithesis between perception and conception, nor that the fear of a frightened man is as present as his expression of fear to an observer, nor that a person's mental states may become objects of contemplation to a neighbour in the same way as his own, nor that "the physical and the mental sides of the complex before us are apprehended together at one and the same moment of time, and they stand on precisely the same level of psychological certainty."[4]

It might be possible, Karl Peason suggested, for one person to recognise another's consciousness if their cortexes were connected by a commissure.[5] Reid thought that a gesture might admit one mind to the cognisance of another as effectively as a commissure, and Mrs. Duddington sees no essential need for either one or the other. Many thinkers are now convinced that

[1] *Hibbert Journal*, October, 1920.

[2] *Moral Values and the Idea of God*, p. 265.

[3] *Ibid.*, pp. 265–66.

[4] "Our Knowledge of Other Minds," *Proc. Arist. Soc.*, 1918–19.

[5] *The Grammar of Science*, Pt. 1, Ch. 1.

there is some immediacy in knowing one another's minds, though they may know neither how much there is nor how it is obtained.

"The growth of our inner world," writes Dr. Merz, "through the influence of others with whom we stand seemingly merely in physical contact and communication, forces upon us almost necessarily the conviction that there is direct intercourse between the inner worlds, or streams of thought, as there is between the outer world, that is, its physical bodies."[1] Webb firmly degrades the analogical argument to a subordinate place: ". . . while I entirely reject the doctrine that we infer the existence of other persons by means of an argument from analogy, I do not at all deny either the activity of the person, or the presence of what may be called 'mediation' in the process whereby we become aware of their existence."[2] If we infer by analogy to other minds and their conscious states, we start from solipsism and he is convinced "that no one can make solipsism the starting-point of his thought."[3] The realistic coördination of mind-knowledge with thing-knowledge appears when he remarks ". . . I should be prepared to contend that we may observe also in our knowledge of objects a like co-existence of immediacy with 'inference' or 'intellectual construction.'"[4] Both Merz and Webb emphatically convict the analogical estimate of inadequacy, and Mrs. Duddington expresses and developes a sense of this inadequacy which is widespread in modern thought.

Webb hints at an epistemology which shall be based as fundamentally on mind-knowledge as on sense-knowledge. The idealistic postulate that our primary, or immediate, knowledge is knowledge of our own private conscious states alone seems to preclude any possibility of apprehending any realities beyond the self. These exterior realities comprise both minds and physical things. Our certainties about minds are as great as, as important as, as evident as, and perhaps even more significant than, our certainties about things. Webb remarks that the failure inherent in attempts to explain perception of an external world out of con-

[1] *A Fragment on the Human Mind*, p. 94.
[2] *Divine Personality and Human Life*, p. 181.
[3] *Ibid.*, p. 182.
[4] *Ibid.*, p. 185.

sciousness of mental states merely as such indicates in such perceptions an irreducible element of our consciousness describable as 'immediate.'[1] If we have "an immediate experience of intercourse with other minds,"[2] a theory of knowledge might, in principle, rest as decisively on the immediacy of mind-knowledge as on the immediacy of sense-knowledge. The prominence gradually attaching to social factors in the formation and constitution of human knowledge has a tendency to centre epistemology on our knowledge of other minds. "Human consciousness," Webb remarks, "is from the first a social consciousness, the consciousness of an objective world common to one's self with other selves, through our intercourse with whom this consciousness is developed."[3] The analogical estimate of our knowledge of other minds affirms the mediation of sense-perception and the direction of apprehension to be from the private self to other selves. Immediacy of mind-knowledge and the dependence of thing-knowledge on 'social consciousness' lessens the importance of the mediation of sense-perception. If, in addition, "we learn the structure of our own selves through observation of the social structure which confronts us,"[4] knowledge starts from the apprehension of other minds. Webb, however, does not actually convert our knowledge of other minds into the fundamental epistemological fact, for he adds that we can only understand the "social structure which confronts us" through "recognising in it the experience on a larger scale of sentiments, desires, or impulses inherent in the nature of each of us."[5] Nor does he completely sever the dependence of mind-knowledge on thing-knowledge which tends, as it always has tended, to establish sense-perception as the fundamental fact: we can speak of "having a direct or immediate knowledge of another person" without a "magical power . . . which is independent of the ordinary means of communication through sensible signs."[6]

[1] *Loc. cit.*
[2] *Ibid.*, p. 186.
[3] *Ibid.*, pp. 183–4.
[4] *Ibid.*, p. 186.
[5] *Ibid.*
[6] *Ibid.*

Merz very strongly reflects a tendency to make knowledge of other minds the fundamental epistemological fact. Personality, he says, becomes the first category of reality; the not-self is an earlier experience than the self; we lay stress on our outer physical experiences after we see the self standing as an outer self among others.[1] The "vividness and definiteness of an independent existence," he adds, "could never arise in the solitary mind of an individual": through "inter-subjective communication" we become aware of things as external.[2] Apprehension, according to the analogical estimate, proceeds from knowledge of self, through knowledge of physical things, to knowledge of other minds; according to Dr. Merz the external world of things is genetically the final stage.

These are days of attack upon vested interests. The analogical estimate of mind-knowledge is still firmly intrenched in epistemology. Common sense asserts it and tradition supports it. Biology, insisting that we must begin with structure and behaviour instead of with the mental states of the psychologist,[3] enforces the mediation of sense-perception. But there is a restiveness under the dominance of common sense and tradition. Behaviourism lops off the mental side from the analogy by denying introspection and merging the minds to be observed in gesture and action. Realism makes apprehension of minds as direct as the apprehension of objects. Reid deferred to the traditional analogy by retaining a vehicularity for sense-perception in immediate knowledge of minds; Webb also retains a connection between these two which is less definitely conceived or expressed. Mrs. Duddington, pleading that there is *a priori* no reason why we should not discriminate anything if knowledge be essentially discrimination, expels any necessary dependence upon sense-perception by mind-perception.[4] Merz makes of knowledge of other minds an epistemological fact more fundamental than the knowledge of things upon which the analogical argument supposes it to depend.

[1] *A Fragment on the Human Mind*, pp. 77–79.
[2] *Ibid.*, p. 81.
[3] Kirkpatrick: *Genetic Psychology*, p. 3.
[4] *Proc. Arist. Soc.*: "Our Knowledge of other Minds."

The severe handling of the analogical estimate of our method of knowing one another's minds by modern Realism becomes very apparent as Realism insists on the full stretch of its deductions. In *Space, Time and Deity,* Alexander relentlessly compels Realism to accept the full significance of its doctrines. "The apprehension of other minds" is only secondarily served by analogy: . . . when we already have the notion of other minds, we interpret outward behaviour on the analogy of our own experience," but "the idea of a foreign consciousness would be miraculous if it were not based on a direct experience of it." The "experience which assures us not inferentially but directly of other minds" is "the experience of sociality." We become aware of our fellows in seeking or avoiding their company and in experiencing their reciprocal approaches to ourselves, as fear or the instinct of flight discovers certain things to be dangerous. The social or gregarious instinct is the source or vehicle of an assurance to each member of society that he is surrounded by other minds. This assurance "is not invented by inference or analogy, but is an act of faith forced upon us by a peculiar sort of experience."[1]

The 'vehicular' conception of cognition is constantly repeated in realistic theories. When Alexander asserts that materiality is apprehended in the sense of resistance offered to our bodies,[2] we remember Reid's opinion that solidity is apprehended through a "certain sensation of touch." Similarly "we have not any sense-organ for Space or Time, we only apprehend them in and *through* our sensible apprehension of their filling."[3] The vehicularity which thus pervades Alexander's extreme version of Realism and which, in some form, appears in all realistic philosophical speculation, is virtually a necessity in his conception of the apprehension of other minds. It appeared in Reid's conception: gesture conveys to the apprehending mind a direct, immediate apprehension of the other mind behind the gesture. A substitution for Reid's gesture of Alexander's 'emo-

[1] *Space, Time and Deity,* Bk. 2, pp. 31–37.
[2] *Ibid.,* Bk. 2, p. 158.
[3] *Ibid.,* Bk. 1, p. 37.

tion of sociality' reveals the fundamental vehicular plan which pervades these two realistic versions of the method of cognition.

Space, Time and Deity may mark an epoch in the fortunes of modern Realism. Most systems reveal their strengths or weaknesses most clearly when they are relentlessly drawn out from their initial assumptions into their final implications. If modern Realism has been successfully justified by this recent and able exposition, the belief in analogy as the source of apprehension of the minds of others may be permanently discarded from the philosophical tradition. If its insufficiency has been exposed by this systematic and determined effort to establish its sufficiency, the analogical estimate of our method of apprehending other minds may return to its own and still retain its place in the epistemological creed.

JOSHUA C. GREGORY.

BRADFORD, ENGLAND.

PROCEEDINGS OF THE EASTERN DIVISION OF THE AMERICAN PHILOSOPHICAL ASSOCIATION; THE ANNUAL MEETING, VASSAR COLLEGE, DECEMBER, 28, 29, AND 30, 1921.

REPORT OF THE SECRETARY.

THE annual meeting of the Association (the twenty-first annual meeting of the American Philosophical Association) was held at Vassar College, Poughkeepsie, N. Y., on December 28, 29 and 30, 1921.

The business meeting was called to order at 9:15 A. M. on December 30, with President Sheldon in the chair. Professor W. K. Wright reported for the auditors that the Treasurer's statement of accounts is correct. It was moved and voted that the Treasurer's report be adopted without reading. The report follows:

A. H. JONES, TREASURER, IN ACCOUNT WITH THE EASTERN DIVISION OF THE AMERICAN PHILOSOPHICAL ASSOCIATION.

Time Account.

Balance on hand, January 1, 1921	$124.14
Interest, June 28/20, Dec. 28/20, June 28/21	5.65
Balance on hand, January 1, 1922	$129.79

Two One-Hundred Dollar Registered Bonds of the 4¼% Third Liberty Loan, Nos. 513173, 513174 in keeping of the Treasurer.

Check Account.

Deposits.

Balance, January 1, 1921	$263.74
Jan. 4 (dues)	51.30
Jan. 4 (dues)	13.00
March 30 (dues)	92.00
April 12 (dues)	1.00
July 12 (semi-annual interest on bonds)	4.25
July 12 (dues)	9.00
Dec. 16 (semi-annual interest on bonds)	4.25
Dec. 16 (dues)	8.00
Total	$446.54

Withdrawals.

Dec. 27, 1920, exchange on Canadian check	$ .37
Jan. 11, 1921, telegram and stamps	2.35
Jan. 11, Secretary's expenses (1920 meeting)	20.42
Jan. 13, exchange on Canadian check	.42
Jan. 15, Professor Cabot's expenses (1920 meeting)	25.00
Jan. 20, due Professor A. L. Jones, annual dinner, 1920 meeting	4.25
Jan. 28, annual dues to American Council of Learned Societies	13.25
April 1, long distance call	.85
April 1, check returned	1.00
April 22, stamps to mail Proceedings	8.00
April 26, stamps to mail Proceedings	3.00
April 27, taxi to mail Proceedings	1.00
June 12, envelopes for Proceedings	3.50
July 13, Proceedings for 1920 and express	48.06
July 20, share of cable to Professor Dewey (China)	10.00
Sept. 19, stamped envelopes	11.12
clerical	30.53
Total	$183.12
Total deposits	$446.54
Total withdrawals	183.12
Balance on hand Jan. 1, 1922	$263.42

Examined and found correct, W. K. WRIGHT, CHARLES H. TOLL, *Auditors.*

It was moved and voted that the following persons recommended by the Executive Committee be declared active members of the Association: J. Robert Kantor, Raymond F. Piper, W. Curtis Swabey.

The Executive Committee presented the following nominations: for *President,* W. G. Everett, *Vice-President,* Morris R. Cohen, *New Members of the Executive Committee,* Warner Fite (to serve two years), J. E. Creighton, J. A. Leighton. It was moved and carried that these nominations be confirmed.

The Executive Committee recommended that the question of electing corresponding members, which had been proposed at the 1920 meeting, be laid on the table. The recommendation of the Committee was accepted.

Because instructed to present a plan for nominating and electing officers by mail, the Executive Committee presented the following

formula: that officers of the Association be nominated and elected by mail, according to a procedure to be determined by the Executive Committee. The Committee recommended the rejection of the formula, which recommendation was accepted.

It was moved and voted that the President appoint a committee to confer with the Committee of the American Library Association in regard to making a survey of the philosophical literature in the larger libraries of the East, and report.

It was also moved and carried that the Committee on International Cooperation be continued, and that the Association authorize the Committee to expend a sum not to exceed $200 for the purpose of supplying Russian and other European libraries and teachers with American books and periodicals.

The Executive Committee recommended that the Association hold during 1922 one meeting, and that meeting (provided the Western Division agrees) to be a joint meeting with the Western Division at such time and place as shall be agreed upon by the Executive Committees of the two Divisions; and that Professor John Dewey be invited to lecture on some philosophical subject under the terms of the Carus gift.

The meeting adjourned with a vote of appreciation and thanks to the President and Department of Philosophy of Vassar College.

A. H. Jones,
Secretary.

Officers of the Association: President, W. G. Everett; Vice-President, Morris R. Cohen; Secretary-Treasurer, A. H. Jones; Executive Committee: the above and, Anna A. Cutler (1922), H. W. Wright (1922), Durant Drake (1923), Warner Fite (1923), J. E. Creighton (1924), J. A. Leighton (1924), and W. H. Sheldon, *ex officio.* Special Committees: Early American Philosophers, I. Woodbridge Riley, Chairman; International Cooperation, A. C. Armstrong, Chairman; Organization and Attendance, J. H. Tufts, Chairman.

LIST OF MEMBERS.

Adams, Professor George P., Univ. of California, Berkeley, Cal.
Adler, Professor Felix, Columbia Univ., New York.
Aikins, Professor H. A., Western Reserve Univ., Cleveland, Ohio.
Albee, Professor Ernest, Cornell Univ., Ithaca, N. Y.
Alexander, Professor H. B., Univ. of Nebraska, Lincoln, Neb.

Ames, Professor E. S., Univ. of Chicago, Chicago, Ill.
Angier, Dr. R. P., Yale Univ., New Haven, Conn.
Apple, President Henry H., Franklin & Marshall College, Lancaster, Pa.
Armstrong, Professor A. C., Wesleyan Univ., Middletown, Conn.
Avey, Dr. Albert E., Ohio State Univ., Columbus, Ohio.
Ayres, Dr. C. E., Amherst College, Amherst, Mass.
Bakewell, Professor C. M., Yale Univ., New Haven, Conn.
Baldwin, Professor J. M., Care Harris Forbes & Co., New York.
Balz, Professor Albert, Univ. of Virginia, Charlottesville, Va.
van Becelaere, Rev. E. L., Convent of the Visitation, Georgetown, Ky.
Bennett, Professor C. O., Yale Univ., New Haven, Conn.
Black, Dr. G. A., 156 Park St., Gardiner, Mass.
Bode, Professor B. H., Ohio State Univ., Columbus, Ohio.
Boodin, Professor J. E., Carleton College, Northfield, Minn.
Bowman, Professor A. A., Princeton Univ., Princeton, N. J.
Brandt, Professor Francis B., Philadelphia School of Pedagogy, Phila., Pa.
Brett, Professor G. A., Toronto Univ., Toronto, Canada.
Brightman, Professor Edgar S., Boston Univ., Boston, Mass.
Britan, Professor Halbert H., Bates College, Lewiston, Me.
Brogan, Dr. A. P., Univ. of Texas, Austin, Texas.
Brown, Dr. H. C., Leland Stanford Univ., Palo Alto, Calif.
Brown, Professor Wm. A., Union Theol. Seminary, New York.
Bryan, President W. L., Indiana Univ., Bloomington, Indiana.
Buchner, Professor E. F., Johns Hopkins Univ., Baltimore, Md.
Bush, Professor Wendell T., Columbia Univ., New York.
Bussey, Professor Gertrude C., Goucher College, Baltimore, Md.
Butler, President N. M., Columbia Univ., New York.
Calkins, Professor Mary W., 22 Bellevue St., Newton, Mass.
Campbell, Professor Gabriel, Dartmouth College, Hanover, N. H.
Campbell, Professor Ivy G., Wells College, Aurora, New York.
Case, Professor Mary S., Wellesley College, Wellesley, Mass.
Castro, Dr. Matilde, Bryn Mawr College, Bryn Mawr, Pa.
Cattell, Professor J. McKeen, Garrison-on-Hudson, New York.
Chandler, Dr. Albert R., Ohio State Univ., Columbus, Ohio.
Chanter, Professor William G., Wesleyan Univ., Middletown, Conn.
Chao, Dr. Yuen Ren, 2 Suel An Bus Hutung, Peking, China.
Chidsey, Professor Harold, Union College, Schenectady, New York.
Coe, Professor George A., 606 W. 122d St., New York.

Cohen, Professor M. R., College of the City of New York, N. Y.
Cooke, Dr. R. B., Cornell Univ., Ithaca, New York.
Coss, Professor J. J., Columbia Univ., New York.
Costello, Professor H. T., Trinity College, Hartford, Conn.
Cox, Professor George C., 128 North Mountain Ave., Montclair, N. J.
Craig, Professor Wallace, Univ. of Maine, Orono, Maine.
Crane, Professor E., Wilson College, Chambersburg, Pa.
Crawford, Professor J. F., Beloit College, Beloit, Wisconsin.
Creighton, Professor J. E., Cornell Univ., Ithaca, New York.
Crooks, Professor Ezra B., Randolph-Macon Woman's College, Lynchburg, Va.
Cross, Professor George, Rochester Theol. Seminary, Rochester, N. Y.
Cunningham, Professor G. W., Univ. of Texas, Austin, Texas.
Curtis, Professor M. M., Western Reserve Univ., Cleveland, Ohio.
Cutler, Professor Anna A., Smith College, Northampton, Mass.
Daniels, Professor Arthur H., Univ. of Illinois, Urbana, Illinois.
Dashiell, Professor J. F., Univ. of North Carolina, Chapel Hill, N. C.
Dearborn, Professor G. V. N., Cambridge 38, Mass.
Demos, Dr. Raphael, Harvard Univ., Cambridge, Mass.
Dewey, Professor John, Columbia Univ., New York.
Doan, Professor F. C., Summit, New Jersey.
Dodge, Professor Raymond, Wesleyan Univ., Middletown, Conn.
Dolson, Dr. Grace N., St. Mary's Convent, Peekskill, N. Y.
Doxsee, Professor Carl W., Penn. College for Women, Pittsburg, Pa.
Drake, Professor Durant, Vassar College, Poughkeepsie, N. Y.
Duncan, Professor George M., Yale Univ., New Haven, Conn.
Dunham, Dr. James H., The Temple Univ., Philadelphia, Pa.
Dunlap, Professor Knight, Johns Hopkins Univ., Baltimore, Md.
Eaton, Dr. R. M., Harvard Univ., Cambridge, Mass.
Edman, Dr. Irwin, Columbia Univ., New York.
Elkus, Professor Savilla A., 24 West 96th St., New York.
Eno, Mr. Henry Lane, Princeton, New Jersey.
Everett, Professor Walter G., Brown Univ., Providence, R. I.
Ewer, Professor B. C., Pomona College, Claremont, California.
Faris, Professor Ellsworth, Univ. of Chicago, Chicago, Illinois.
Ferguson, Professor A. S., Queen's Univ., Kingston, Canada.
Fisher, Dr. D. Warren, Univ. of Minnesota, Minneapolis, Minn.
Fite, Professor Warner, Princeton Univ., Princeton, N. J.
Flaccus, Professor Louis W., Univ. of Pennsylvania, Philadelphia, Pa.
Fletcher, Professor O. O., Furman Univ., Greenville, S. C.

Forbes, Professor G. M., Univ. of Rochester, Rochester, N. Y.
French, Professor F. C., Colgate Univ., Hamilton, N. Y.
Fuller, Mr. B. A. G., Harvard Univ., Cambridge, Mass.
Fullerton, Professor G. S., Care of Credit Suisse, Geneva, Switzerland.
Furry, Dr. W. D., Shorter College, Rome, Georgia.
Gamble, Professor Eleanor A. McG., Wellesley College, Wellesley, Mass.
Gardiner, Professor H. N., Smith College, Northampton, Mass.
Gifford, Professor A. R., Univ. of Vermont, Burlington, Vt.
Gillett, Professor A. L., Hartford Theol. Sem., Hartford, Conn.
Given, Professor P. L., Wesleyan Univ., Middletown, Conn.
Gore, Professor Willard C., Univ. of Chicago, Chicago, Illinois.
Griffin, Professor E. H., Johns Hopkins Univ., Baltimore, Md.
Guthrie, Dr. E. R., University of Washington, Seattle, Washington.
Guthrie, Dr. Kenneth S., 292 Henry St. New York.
Hammond, Professor W. A., Cornell Univ., Ithaca, N. Y.
Hartman, Dr. Henry L., Univ. of Cincinnati, Cincinnati, Ohio.
Hawes, Professor R. P., Goucher College, Baltimore, Md.
Hendel, Dr. Charles W., Princeton Univ., Princeton, N. J.
Henderson, Professor Ernest N., Adelphia College, Brooklyn, N. Y.
Henke, Professor Frederick G., Allegheny College, Meadville, Pa.
Hibben, President J. G., Princeton Univ., Princeton, N. J.
Hill, President A. Ross, Univ. of Missouri, Columbia, Mo.
Hitchcock, Dr. Clara M., 1923 East 71st St., Cleveland, Ohio.
Hite, Professor L. F., New Church Theol. Sch., Cambridge, Mass.
Hocking, Professor W. E., Harvard Univ., Cambridge, Mass.
Hoffman, Professor Frank S., 216 West 72d St., New York.
Hollands, Professor E. H., Univ. of Kansas, Lawrence, Kansas.
Holmes, Professor Jesse H., Swarthmore College, Swarthmore, Pa.
Horne, Professor H. H., 341 Summit Ave., Leonia, N. J.
Howes, Dr. Ethel P., Scarsdale, N. Y.
Hudson, Professor J. W., Univ. of Missouri, Columbia, Mo.
Hughes, Professor Percy, Lehigh Univ., South Bethlehem, Pa.
Hume, Professor J. G., Univ. of Toronto, Toronto, Canada.
Husik, Dr. Isaac, Univ. of Pennsylvania, Philadelphia, Pa.
Hutcheon, Professor R. J., Meadville Theol. School, Meadville, Pa.
Johnson, Professor George, Lincoln University, Pa.
Johnson, Professor R. B. C., Princeton Univ., Princeton, N. J.
Jones, Professor A. H., Brown University, Providence, R. I.
Jones, Professor A. L., Columbia Univ., New York.

Jones, Professor Rufus M., Haverford College, Haverford, Pa.
Jordan, Professor E., Butler College, Indianapolis, Ind.
Kallen, Dr. Horace, School of Social Research, New York.
Kantor, J. Robert, Indiana Univ., Bloomington, Ind.
Keyser, Professor Cassius J., Columbia Univ., New York.
Kitch, Professor Ethel M., Oberlin College, Oberlin, O.
Ladd Franklin, Christine, 564 Park Ave., New York.
Ladd, Professor G. T., New Haven, Conn.
de Laguna, Dr. Grace A., Bryn Mawr College, Bryn Mawr, Pa.
de Laguna, Professor Theodore, Bryn Mawr College, Bryn Mawr, Pa.
Lamprecht, Dr. S. P., Columbia Univ., New York City.
Lane, Professor W. B., Univ. of Toronto, Toronto, Canada.
Leary, Professor D. B., Univ. of Buffalo, Buffalo, N. Y.
Lefevre, Professor Albert, Univ. of Virginia, Charlottesville, Va.
Leighton, Professor J. A., Ohio State Univ., Columbus, Ohio.
Lewis, Professor Clarence I., Harvard Univ., Cambridge, Mass.
Lloyd, Professor A. H., Univ. of Michigan, Ann Arbor, Michigan.
Lodge, Professor Rupert C., Univ. of Manitoba, Winnipeg, Canada.
Loewenberg, Dr. J., Univ. of California, Berkeley, Cal.
Longwell, Professor Horace C., Princeton Univ., Princeton, N. J.
Lord, Professor H. G., Columbia Univ., New York.
Lough, Professor J. E., Sch. of Pedagogy, N. Y. Univ., New York.
Lovejoy, Professor A. O., Johns Hopkins Univ., Baltimore, Md.
Lyman, Professor Eugene W., Union Theol. Sem., New York.
McAllister, Professor C. N., State Normal School, Warrensburg, Mo.
McClure, Dr. M. T., Tulane Univ., New Orleans, La.
McCormack, Mr. Thomas J., La Salle, Ill.
McGiffert, Professor A. C., Union Theol. Seminary, New York.
McGilvary, Professor E. B., Univ. of Wisconsin, Madison, Wis.
MacDougall, Professor R. M., New York Univ., New York.
Macintosh, Professor Douglas C., Yale Univ., New Haven, Conn.
Mackenzie, President William D., Hartford, Conn.
MacLennan, Professor S. F., Oberlin College, Oberlin, Ohio.
Marsh, Professor H. D., College of the City of N. Y., New York.
Marshall, Dr. Henry R., 7 West 43d St., New York.
Marvin, Professor W. T., Rutgers College, New Brunswick, N. J.
Mason, Professor M. Phillips, Bowdoin College, Brunswick, Maine.
Mead, Professor George H., Univ. of Chicago, Chicago, Ill.
Mecklin, Professor John M., Dartmouth College, Hanover, N. H.
Meiklejohn, President Alex., Amherst, Mass.

Miller, Professor Dickinson S., General Theol. Seminary, New York.
Mitchell, Professor Arthur, 20 Beacon St., Northampton, Mass.
Montague, Professor W. P., Columbia Univ., New York.
Montgomery, Dr. G. R., 1 E. 24th St., New York.
Moore, Professor Addison W., Univ. of Chicago, Chicago, Ill.
Moore, Professor E. C., Los Angeles State Normal School, Los Angeles, Cal.
Moore, Professor Edward L., Harvard Univ., Cambridge, Mass.
Moore, Professor Jared S., Western Reserve Univ., Cleveland, Ohio.
Muir, Professor Ethel G., Lake Erie College, Painesville, O.
Newbold, Professor W. R., Univ. of Pennsylvania, Philadelphia, Pa.
Newlin, Professor W. J., Amherst College, Amherst, Mass.
Overstreet, Professor H. A., College of the City of N. Y., New York.
Pace, Professor E. A., Catholic Univ. of America, Washington, D. C.
Paine, Dr. E. T., Cornell Univ., Ithaca, N. Y.
Parker, Professor D. H., Univ. of Michigan, Ann Arbor, Mich.
Parkhurst, Dr. Helen, Barnard College, New York City.
Patterson, Dean H. P., Oklahoma A. & M. College, Stillwater, Okla.
Payne, President Bruce R., Teachers College, Nashville, Tenn.
Penney, Dr. M. E., Syracuse, N. Y.
Pepper, Dr. Stephen C., Univ. of California, Berkeley, Cal.
Perrier, Dr. Joseph, Columbia Univ., New York.
Perry, Professor Ralph B., Harvard Univ., Cambridge, Mass.
Picard, Dr. Maurice, Columbia Univ., New York.
Piper, Raymond F., Syracuse Univ., Syracuse, N. Y.
Pitkin, Professor Walter B., Columbia Univ., New York.
Pott, Professor Wm. S. A., Univ. of Virginia, Charlottesville, Va.
Powell, Professor Elmer E., Miami Univ., Oxford, Ohio.
Prall, Professor D. W., Univ. of California, Berkeley, Cal.
Pratt, Professor J. B., Williams College, Williamstown, Mass.
Proctor, Dr. T. H., Williams College, Williamstown, Mass.
Rand, Dr. Benj., Harvard University, Cambridge, Mass.
Raub, Professor Wm. L., Knox College, Galesburg, Ill.
Raymond, Professor George L., Stoneleigh Court, Washington, D. C.
Riley, Professor I. Woodbridge, Vassar College, Poughkeepsie, N. Y.
Roback, Dr. Abraham A., Harvard Univ., Cambridge, Mass.
Robbins, Mr. Reginald C., Lone Tree Farm, Hamilton, Mass.
Sabin, Dr. Ethel E., Bryn Mawr College, Bryn Mawr, Pa.
Sabine, Professor George H., Univ. of Missouri, Columbia, Mo.
Salter, Mr. William M., The Hamilton, Washington, D. C.

Schaub, Professor E. L., Northwestern Univ., Evanston, Ill.
Schneeweis, Mr. Adolph J., Pittsburgh Univ., Pittsburgh, Pa.
Schneider, Dr. H. W., Columbia Univ., New York.
Sellars, Professor R. W., Univ. of Michigan, Ann Arbor, Mich.
Shanahan, Professor E. T., Cath. Univ. of America, Washington, D. C.
Sharp, Professor Frank C., Univ. of Wisconsin, Madison, Wis.
Shaw, Professor C. G., New York Univ., New York.
Shearer, Dr. Edna A., Smith College, Northampton, Mass.
Sheffer, Dr. H. M., Harvard Univ., Cambridge, Mass.
Sheldon, Professor W. H., Yale Univ., New Haven, Conn.
Sigsbee, Dr. Ray A., 120 Broadway, New York.
Singer, Professor Edgar A., Jr., Univ. of Pennsylvania, Philadelphia, Pa.
Slonimsky, Dr. Henry, Johns Hopkins Univ., Baltimore, Md.
Smith, Dr. Henry B., Univ. of Pennsylvania, Philadelphia, Pa.
Smith, Professor Norman Kemp, Univ. of Edinburgh, Edinburgh, Scotland.
Sneath, Professor E. Hershey, Yale Univ., New Haven, Conn.
Spaulding, Professor E. G., Princeton Univ., Princeton, N. J.
Squires, Professor W. H., Hamilton College, Clinton, N. Y.
Steele, Rev. E. S., 1522 Q St., Washington, D. C.
Strong, Professor C. A., Fiesole, Florence, Italy.
Swabey, Dr. Marie Collins, 1411 Ruth St., Houston, Texas.
Swabey, Dr. W. Curtis, Rice Institute, Houston, Texas.
Swenson, Professor D. F., Univ. of Minn., Minneapolis, Minn.
Symons, Professor N. J., Queen's Univ., Kingston, Canada.
Talbert, Dr. Ernest L., Univ. of Cincinnati, Cincinnati, Ohio.
Talbot, Professor Ellen B., Mt. Holyoke College, South Hadley, Mass.
Tawney, Professor Guy A., Univ. of Cincinnati, Cincinnati, Ohio.
Taylor, Professor W. J., Training School for Teachers, Brooklyn, N. Y.
Thilly, Professor Frank, Cornell Univ., Ithaca, N. Y.
Thorndike, Professor E. L., Columbia Univ., New York.
Toll, Professor C. H., Amherst College, Amherst, Mass.
Tower, Dr. Carl V., Ursinus College, Collegeville, Pa.
Townsend, Professor Harvey G., Smith College, Northampton, Mass.
Tsanoff, Professor R. A., Rice Institute, Houston, Texas.
Tufts, Professor James H., Univ. of Chicago, Chicago, Ill.
Turner, Professor Jno. P., College of the City of N. Y., New York.
Tuttle, Professor John R., Elmira College, Elmira, N. Y.
Urban, Professor William M., Dartmouth College, Hanover, N. H.

Van Riper, Dr. Benjamin, Rockford College, Rockford, Ill.
Veazie, Dr. Walter, N. Y. University, New York.
Vibbert, Professor Charles B., Univ. of Michigan, Ann Arbor, Mich.
Walcott, Professor G. D., Hamline Univ., St. Paul, Minn.
Warbeke, Professor John M., Mt. Holyoke College, So. Hadley, Mass.
Warren, Dean William M., Boston Univ., Boston, Mass.
Washburn, Professor Margaret F., Vassar College, Poughkeepsie, N.Y.
Wells, Professor Wesley R., Lake Forest College, Lake Forest, Ill.
Wenley, Professor R. M., Univ. of Michigan, Ann Arbor, Mich.
Weyer, Professor Edward M., Wash. and Jeff. College, Washington, Pa.
Whitney, Professor G. W. T., Princeton Univ., Princeton, N. J.
Wiener, Dr. N., Mass. Institute of Technology, Boston, Mass.
Wilde, Professor N., Univ. of Minnesota, Minneapolis, Minn.
Williams, Professor R. D., Ohio State Univ., Columbus, Ohio.
Wilm, Professor E. C., Boston Univ., Boston, Mass.
Wilson, Professor G. A., Syracuse Univ., Syracuse, N. Y.
Woodbridge, Professor F. J. E., Columbia Univ., New York.
Woods, Professor James H., Harvard Univ., Cambridge, Mass.
Wright, Professor H. W., Manitoba Univ., Winnipeg, Canada.
Wright, Professor William K., Dartmouth College, Hanover, N. H.
(Members are requested to notify the Secretary of any correction to be made in the above list.)

ASSOCIATE MEMBERS.

Bentley, E. B., 1220 Washington Ave., Springfield, Mo.
Thalheimer, A., Johns Hopkins Univ., Baltimore, Md.

The Metaphysical Value of the Religious Consciousness. F. C. FRENCH.

The Psychology of Religion as a branch of Science claims to explain the phenomena of religious experience by the generally recognized laws of the mental life. From this point of view, conversions, mystical visions, trances, ecstacies, etc., even if unusual, are still natural phenomena of the mind and afford no evidence of divine intervention. If this be accepted, is there still ground for drawing any metaphysical conclusions from the religious consciousness?

Just as the scientific consciousness (which psychologically considered is a mental phenomenon) irrespective of any specific teachings of science points to the conclusion that man is a rational being and

that the universe which his mind interprets is a rational universe, or as the moral consciousness in man points to a moral order in the universe, so the religious consciousness points to certain conclusions as to the nature of the universe in which we find ourselves.

Tiele brings the essential characteristics of the religious consciousness under three heads—a belief in the existence of a Divine being—a recognition of man's sinfulness, and a hope of salvation. We may simplify this analysis a little further. The recognition of sin implies a consciousness of a possible perfection which man has failed to obtain —a thought of the ideal. But this ideal is not a mere ideal of the imagination; it is a practical ideal. That there is a way of salvation means that, although the ideal is not yet attained, it is nevertheless attainable for man, and further, to the religious consciousness there is not only an obtainable ideal, but the ideal is real. Here is seems to me we have the center and soul of religion. It is the faith or rather the overpowering conviction that the ideal is real. That is what God means to the religious mind—the reality of the ideal. Or as Höffding puts it "Religion is faith in the conservation of value." Of course this faith has taken expression in multitudinous forms, but in all the higher religions and perhaps to some extent in the lower there is involved in some way the thought that man's deepest aspirations and longings do not mock him, that there is something in reality which answers to the sincerest and loftiest demands of the human heart. Of course all ideals are not necessarily real. We recognize that many of the conclusions of science were erroneous, and yet we do not lose our faith in scientific thought. All mental and moral life involves a trust in the essential veracity of conscious experience. If we trust the intellectual consciousness and the moral consciousness in spite of frequent errors and aberrations, why not the religious consciousness?

All of the great human ideals must mean something. It is inconceivable that we should be ever lured to higher and higher intellectual attainments by an ideal of truth, if truth itself were a mere will-o-the-wisp. Aesthetic and ethical ideals must too have a meaning. The religious ideal is but the culmination of the special ideals of truth, beauty, and goodness, unified and embodied in a Supreme Reality. The religious Consciousness is not something alone by itself. It is the feeling of the unity of our ideal nature, and of the unity of the ideal in man with the ideal in the universe; as such, it points to and in some measure justifies a faith in a Being who is at once the ideal and the real in unison.

Situations and Experience. W. K. WRIGHT.

'Situations' arise within 'experiences' when there is conflict, and readjustment is necessary. When the conflicting elements cannot be resolved by simpler methods a situation becomes 'reflective.' For most purposes a 'reflective situation' can be abstracted from human experience as a whole and its problem can be solved in isolation; in such cases the doctrine of the 'externality of relations' holds pragmatically. But this is not always true, for one of the tasks of the pragmatist is to classify 'experiences' and 'situations' and formulate the principles that apply to them generally.

Moreover, one time-honored philosophical problem has been the character of human experience in its entirety, and its relation to the world as a whole. Could the pragmatist discover no concrete reflective situation in which this problem arises, he would be forced into agnosticism. But such situations, which we may conveniently call 'cosmic situations' exist at the present time, *e.g.*, the American immigration problem; the relation of cosmic evolution to moral evolution, regarding which pragmatists oppose Huxley; and the practical question as to what attitude an intelligent person, in view of his social responsibilities, should take towards organized religion. A scientific solution of any one of these three practical problems would necessitate an investigation of human experience in its spatial and temporal entirety, beginning with pre-historic man; the latter two in addition involve the relation of human experience in its entirety to the world as a whole.

If a pragmatist decides to affirm that experience in its entirety and the world as a whole are coextensive, he forthwith becomes an idealist. If, like the writer, he is too realistically disposed to do this, he may accept the ordinary scientific accounts of the inorganic world independent of human experience as approximately true statements of external Reality. Furthermore, the writer believes that the world, in addition to being mechanical is also in part, and only in part, teleological and organic. The organic and teleological factors are on the increase, in part as a consequence of human effort (Meliorism). The writer's Pragmatism thus differentiates itself both from mechanistic realism and from speculative idealism, although it owes much to each of them.

Do Physical Things Possess Attributes? ROY WOOD SELLARS.

The actual drift of philosophy in large measure determines what

questions will be asked. While idealism was dominant, we heard little of physical things. But, with the rise of various forms of realism, such questions as the following are pressing to the forefront: What are physical things if they exist in their own right? Do the old scholastic distinctions apply? Can we work out more adequate distinctions?

Idealism, neo-realism and pragmatism do not accept a transcendent thing. They have, therefore, many points in common in opposition to critical realism. These agreements and oppositions cast light upon our problem.

Critical realism is a two-story view. It is led to distinguish between what is in experience and knowledge and what is *in re*. On the subjective side are sense-data and the propositions built upon them as cognitional of things. In cognition, then, attributes and properties are the elements of our knowledge of things. An empirical analysis of science gives us these elements which have an epistemological status rather than a cosmological status. *In re*, we may speak of the *characteristics* of things. Such characteristics do not inhere in a substratum. They are simply the structure, composition and modes of behavior of things. We have here the *isolation by thought* of the determinate nature of things, but there is no duality *in re*. For knowledge to be true, attributes in thought must correspond to characteristics *in re*. This is possible because order is reproducible in consciousness.

This view is then contrasted with other realistic positions, notably neo-realism and scholastic realism.

The Form of Philosophical Intelligibility. J. E. CREIGHTON.

The question as to what may rightly be taken as constituting explanation in philosophy is of fundamental importance both theoretically and practically. Lack of clearness on this point lies at the root of much fault-finding about the failure of philosophy: disillusionment is begotten by wrong demands and false expectations. Genuine philosophical problems must presuppose and grow out of the demands of an ordered system of experience, and are not to be created by scholastic ingenuity. The important thing is to rid philosophy of abstractions, not in the sense of avoiding what is difficult or profound, but of centering attention upon vital and central interests of life.

The type of intelligibility demanded by philosophy is quite different from that sought by any of the special sciences. The best illustration

of the kind of insight that would satisfy the requirements of philosophical explanation may be drawn from the life of the family, or from that of a small community whose members have had long and intimate association. The objections to a logic founded on the conception of a concrete universal are (1), that from this point of view no rigorously demonstrated propositions are possible; and (2) that without such propositions philosophy is nothing but subjective opinion and can never furnish a common basis for life and society. Against these objections, it is shown (1) that the possibility of rigid demonstration in any field is always purchased by sacrificing concreteness; and (2) that the kind of agreement in regard to general ideas that philosophy is called upon to furnish as a common meeting-ground for society does not take the form of a system of abstract propositions that are to be held verbally and literally in common, but rather is that of a common mind in the form of principles of insight and sympathy that will make progress through discussion fruitful.

Primitive and Standard Value. STEPHEN C. PEPPER.

Part of the difficulty with the subject of value arises from the fact that one term is made to cover two phenomena of totally different sorts. One of these phenomena is an activity, the other a state. Call the first primitive value, the other standard value.

Primitive value is behavior. It presupposes an object valued and an activity of the organism with reference to that object. The object valued is a mental image (or its physiological correlate). The activity of the organism that endows the object with value is of either of two kinds constituting two kinds of primitive value. It may be affective activity immediately attached to the object, or it may be activity (either affective or motor) arising as a result of a judgment associating the object with another object—value on the basis of a cognitive presupposition. The first is primary primitive value or the valuing of an object for itself, the other is secondary primitive value or the valuing of an object for the sake of another object.

From primitive value it is impossible to derive so-called logical, moral, aesthetic values, and the like. They are not primitive value at all, but standard value. Standard value is simply the degree in which an object comes up to a standard. And a standard is anything whatever set up for purposes of comparison. In many cases the selection of a standard is arbitrary or accidental, but not always.

Logical, moral, and aesthetic standards are ultimately determined by discoverable social forces.

There is no more intimate relation, however, between primitive and standard value than between grasshoppers and sauce pans.

Before Good and Evil: Civilization. C. E. Ayres.

Morality is civilization. It is a phenomenon peculiar to the most highly domesticated species. In every human community each individual man is disciplined from birth in the system of behavior of that community, so that every man contemplates the system with approval mixed with veneration, and walks in its ways with obedience tinged with worship.

The problem of ethics is the analysis and explanation of the veneration with which men regard their own established habits, and of the fervor with which they pursue the ends indicated by them. In the place of older and more familiar imagery there has come that complete scientific regimentation of the constructive imagination that is known as the modern scientific point of view. From this point of view the universe, and human behavior, appear not so much as the consummate achievement of the act of will of a remote Creator who stands in the background as an indispensable first cause of every finite thing, as rather a continuous and impersonal creative process no part of which is any more or less dispensable than any other. This tremendous pyramid of impersonality has its advantages and its accompanying defects; but more important than either is the inescapable fact of its existence and dominance of the modern mind. It is the form in which the thought of the age is cast, and the moral order can escape revision in its terms no more than anything else.

The modern student will commence this revised analysis of the moral order with the biologist's version of the human organism—an unspecialized organism, totally lacking any fixed, instinctive modes of behavior. He will add the psychologist's observation of the unique docility of man to the habit-forming process of domestication. Perhaps he will ask the psychologist to develop his observations of those traits into a cultural theory of behavior with generalizations on the tolerance of man to domestication, and the intolerance to other cultures than his own that comes of the domesticating process.

Out of these materials he will construct his account of moral behavior. He will see in domestication the development of fixed tastes and wants and needs for the goods that have become habitual and

thus satisfactory, and in the end indispensable. And as the habits that constitute a tradition fit together into a general mode of behavior, so the wants and needs that express the dependence of mankind upon civilization will be seen to group themselves in the minds of men into larger principles of conduct: aspirations and ideals. History will show that these ideals are infused with the fervor and zeal of the fanaticism that arises from the conflict of traditions and their adherents through the alignment of groups, classes and nations that grow out of the shifts in interest and occupation that the economists describe. And finally, a rereading of the literature of speculative ethics and of the philosophies and theologies upon which it draws, will reveal the significance of those majestic works of the imagination with which the more thoughtful men of all civilizations have sought to aggrandize those conceptions of the life and behavior of man to which their cultures had domesticated them.

Myth and Science in Popular Philosophy. MORRIS R. COHEN.

(No summary furnished.)

The Missing Link in the Case for Utilitarianism. W. P. MONTAGUE.

(No summary furnished.)

Some Remarks on Kemp Smith's Commentary. ALEXANDER MEIKLEJOHN.

(To be published under the head of 'Discussion' in this REVIEW.)

REVIEWS OF BOOKS.

A Treatise on Probability. By JOHN MAYNARD KEYNES. London, Macmillan and Co., 1921.—pp. xi, 466.

Those who approach Mr. Keynes's book expecting to find simply a technical treatment of probability will be pleasantly disappointed. It contains that, but it contains much more. Not one, but four, fundamental ideas of importance are constructively developed: that probability is a relation of conclusion to premises like logical relations in general; that probabilities need not be numerically measurable in order to be objective and valid; that the theory of probability admits of formal treatment comparable to that of deduction; and that all induction is properly based on the notion of analogy and the rules of probability. In addition, there is a wealth of critical detail bearing on the formal and the philosophical difficulties of probable inference. The author warns us that "there is much here which is novel, and, being novel, unsifted, inaccurate, or deficient." But the reader will easily be convinced that the method of attack is the right one and the constructive contribution is of the first importance. The subject remains most complex and some problems of theory still undecided. Yet even these matters are set in a clearer light.

The study began, we are told, with an attempt to prove the fundamental theorems of the subject, stated in precise symbolic form, on the hypothesis that probability is a *relation.* "Let our premises consist of any set of propositions h, and our conclusion consist of any set of propositions a, then if a knowledge of h justifies a rational belief in a of degree p, we say that there is a probability relation of degree p between a and h. . . . This will be written $a/h = p$" (p. 4). This conception preserves the objectivity of probability without making it depend on external facts such as frequencies, and separates it as a logical relation from what is merely psychological and subjective without denying that it may vary from person to person and be altered by new knowledge. The probable conclusion, like the certain conclusion, is subject for logical evaluation; is a question of validity, not directly of truth-in-fact.

This extension to probability of the status of logical relations in general is highly satisfactory. But when we ask *what* this relation

is, and what are its formal criteria, we find no direct answer in the book. Apparently it is unanalyzable and *sui generis*, even though the certainty which formal logic analyzes is one degree of it. The validity of the probable conclusion can be formally assessed only in the particular cases in which there is already a probability amongst the premises. The *first* probabilities must somehow be apprehended directly: in this respect probability ceases to behave like a logical relation.

Another difficulty concerns a peculiarity of probable as distinguished from certain inference. An ordinary deductive conclusion which is reached by correct modes of inference can never be invalidated by the application to the same premises of any other mode which is also correct. But accepted modes of probable inference give varying results. Whoever applies, for example, the Law of Large Numbers to the probability of four aces in one hand at the next deal will get a result different from that given by the *a priori* method of combinatorial analysis. Thus the probable conclusion seems to be relative not only to premises, but to the rules of inference used. To mitigate this difficulty and others like it, Mr. Keynes so treats the relation a/h as to include in h the rules of inference, with the inevitable result that probabilities become relative not only to differences of acceptable method, but also to 'ignorance of the law.' Is not this to reduce probability once more to the subjective? Add the fact that the basic and 'directly apprehended' probabilities are bound to be subjective (in the sense of being differently apprehended by different persons), and some of the difficulties of the theory become apparent.

The formal criteria of probability are all criteria of comparison. Three rules are here fundamental:

(1) $ab/h < a/h$ unless $b/ah = 1$. That is, the probability of the conclusion 'both a and b' is less than that of a, unless b is always true when h and a are true.

(2) If h_1 is additional evidence which is simple (that is, not divisible into two statements, one of which might be favorable and the other unfavorable) and is relevant to the conclusion a, then a/hh_1 is greater or less than a/h according as h_1 is favorable or unfavorable.

(3) The Principles of Indifference, according to which the probabilities of exhaustive and mutually exclusive alternatives are equal, provided that every part of the evidence is symmetrical with respect to these alternatives.

The precise statement of these rules (we only paraphrase them

here) and analysis of the conditions of their application occupy Chapters IV and V. The reappearance of that *bête noire* of clear thinking, the Principle of Indifference, comes as something of a surprise. But the treatment given obviates the worst objections. Whether it obviates them all is a complex and difficult question. In a sense, the Principle of Indifference is an exception to our statement that there are no formal criteria of the basal probabilities.

Although the criteria are comparative, not all probabilities can be compared with one another; and those only can be numerically assessed which are founded on some application of the Principle of Indifference. Sometimes we can affirm one probability to be greater than another when we cannot attach a more determinate numerical measure to either. There will be various series of probabilities such that within each the members stand in relations of greater and less, but not all of these series will consist of probabilities which are numerically assessable. Separate series may have members in common, so that those of series A may be adjudged greater or less than some one member of series B, though such comparison with other members of B may not be possible. Since a series whose members are not in general numerically determinate may have a member or members in common with a series of the opposite sort, probabilities not numerically assessable may still be fixed, on occasion, as greater or less than some definite value. The various series are like different 'paths' between 0 and 1, some of which will intersect, others not.

Where probabilities are relative to premises, not directly to external and only partly known facts such as frequencies, the existence of probabilities which have no numerical measure is indubitable. And one feels that the refusal to reduce all to the arithmetic type is sound and promising for comprehensiveness of treatment. The difficulties of dealing with both numerical and non-numerical cases have been surmounted skilfully and without violence to common sense.

In Part II the fundamental theorems of both certain and probable inference are stated in symbolic form and proved from a set of postulates. There are fourteen definitions and an even greater number of postulates (if each assumption be separately counted). Though the development has not the rigor which we have come to look for in logistic, it is sufficiently precise to be always clear, and positive results are achieved in remarkably brief space. It is postulated that every probability relation a/h is unique. But some will have no numerical value, and this threatens to make trouble when 'sums' and

'products' come in question. For this reason, such expressions are not given a meaning in general, but only in special cases in which the truth of the equations involved is independent of any particular value being assignable. Thus the definition of a sum is given

$$ab/h + a\bar{b}/h = a/h.$$

That is, on the premise h, the probability of 'a and b both' plus the probability of 'a but not b' is *defined as* the probability of a. Just what this sum is to mean when a/h is not numerical is a little puzzling. We are reminded of Jowett's saying that Logic is neither an art nor a science, but a dodge. However, this is a very clever dodge, since it makes possible a uniform symbolic treatment of probabilities, some of which are numerically definite, while others are not. In similar fashion, products are defined only for special cases of the form $a/bh.b/h$:

$$ab/h = a/bh.b/h = b/ah.a/h.$$

This is, of course, the ordinary Multiplicative Axiom: The probability of 'a and b both' is the probability of a when b is present, multiplied by the probability of b.

On such foundations, the symbolic development of fundamental propositions is carried out much further than ever before, and with fewer errors. In view of this, we should do ill to quarrel with the lack of complete rigor. But we may register the wish that some one, if not Mr. Keynes himself, will eventually untangle the complex assumptions of probability and develop a calculus in which symbols do not stand indifferently for relations and numbers, and each expression will have unambiguous and general meaning.

Passing over the subjects of numerical measurement and approximation of probabilities, and much interesting discussion of the application of theorems to problems of different types, we come to Part IV on Induction and Analogy. To the student of Philosophy this is the most important section of the book, since it consciously addresses itself to the problem set by Hume's scepticism. The attempt is to formulate in general terms the procedure which actually underlies the inductive generalizations of science and find the grounds of its justification. The important conclusions are that all induction is fundamentally concerned with analogy, and that pure induction can never establish a generalization, even in the sense of making it highly probable, unless we can find independent grounds for some *a priori* probability.

Analogy consists in the possession of a common property or properties. The propositional function $\phi(x)$ stands for any expression such as 'x is a man,' 'x is vertebrate,' 'x is red.' Hence if the individual objects $a_1, a_2, \ldots, a_n$ are all such that $\phi(a)$ is true of them, this marks an analogy, which may be symbolized by $A(\phi)$. The more comprehensive ϕ, the greater the analogy. The generalizations which induction seeks to establish are always expressions of the form "Whenever $\phi(x)$ is true, $\psi(x)$ also is true." That is, the aim is always to establish a connection between two analogies, $A(\phi)$ and $A(\psi)$, or—what amounts to the same thing—between two parts of a single total analogy which holds for a set of objects or cases. This generalization is symbolized by $g(\phi, \psi)$. But does $g(\phi, \psi)$ formulate the real connection? There may be other properties common to all the objects or cases examined which have been rejected as irrelevant. Let this neglected portion of the actual analogy be represented by $\phi_1(x)$. The problem, then, is this: having examined the objects or cases $a_1 \ldots a_n$, and found two sets of properties, ϕ and ψ, common to all, as well as another set of common properties ϕ_1 which are neglected as irrelevant, to determine the probability that *all other* objects or cases possessed of the properties indicated by ϕ will also possess those indicated by ψ, and to make this probability approach certainty. The more comprehensive ϕ_1 (the greater the neglected analogy), the less this *a priori* probability. Hence the problem of increasing the probability lies mainly in proving the genuine irrelevance of ϕ_1. To put it another way, if we have a given set of objects, their characteristics may be exhaustively classified into (1) those which are common and connected, (2) those which are common but irrelevant, and (3) those which are present in some but absent in others. The first class are those expressed by $g(\phi, \psi)$. The probability that this holds not only for the cases examined, but for all cases, is what is in question. This is the same as the probability that if *all* cases were examined the properties under (2)—and none under (1)—would be disclosed as genuinely irrelevant by being sometimes absent, so that all properties would be divisible into those of class (1) and those of class (3). Assuming, then, that when a connection holds in the first n cases there is some *a priori* probability of its holding in all, this probability is increased when the examination of new cases reduces the common properties rejected as irrelevant. Mr. Keynes calls this 'increasing the negative analogy' and finds in it the chief significance of induction.

By the Inverse Principle, previously proved, if a generalization has an *a priori* probability $\neq 0$, every new instance in which it is verified increases its probability. If, in addition, there is some a priori probability, for each new instance, that the generalization will fail in this case unless it is universally true, then with successive verifications the probability approaches certainty as a limit. Thus the validity of inductive procedure follows from the laws of Part II, with the additional assumption of the a priori probabilities just mentioned.

What is here required is an *a priori* probability which is itself independent of induction. If the existence of an analogy raises any probability, however small, that the same connection will universally hold; and if, for every genuinely novel case, there is a probability, however small, that the generalization will not extend to it unless it also extends to *every* case; then the whole inductive procedure requires no other assumptions except those previously laid down. But Mr. Keynes realizes that the existence of such *a priori* probabilities is not a small question, however small the probability itself. This is an assumption of an entirely different sort from those for probability in general, and has to do with the structure of the natural world. He points out the insufficiency of the usual assumptions of the 'uniformity of nature' and 'universality of law,' and thinks that what is required is the postulation of a 'limitation of the independent variety of the universe,' the notion that the multiplicity of nature is grounded in some lesser multiplicity of 'generator properties.' He is sceptical of our ability to resolve the problem of this assumption "so long as our knowledge of the subject of epistemology is in so disordered and undeveloped a condition as it is at present" (p. 262). But he has made it abundantly clear that what is required for the validity of induction is some independent deduction of the categories. This conclusion is the more impressive because it results from a careful and formal analysis of induction itself.

The "Historical Notes on Induction" and the "Philosophical Applications" are full of matter which is important and of special interest. But these topics are less central and are best left to the reader's examination.

Part V, on "The Foundations of Statistical Inference," affords an excellent critical introduction to this subject. Mr. Keynes is, of course, particularly at home in this field: the best results are summed up, and historical misapprehensions cleared away. He departs to a considerable extent from the main tradition, and these chapters contain much controversial matter.

There is a lengthy bibliography which is of value in itself. The Index is sufficient and accurate.

The thought of the book is so compact, the field which it covers so wide, and the analysis so persistent and penetrating, that this is bound to seem a somewhat formidable volume. But for the same reasons, it merits more than a single reading: very few volumes recently issued so generously reward the careful student.

Clarence Irving Lewis.

Harvard University.

La filosofia di G. Locke. Per Armando Carlini. Firenze, Vallecchi, 1920.—Vol. I, pp. xciv, 287; Vol. II, pp. 379.

These two volumes in the "Collezione il pensiero moderna," edited by E. Codignola, are a welcome and valuable addition to the literature on John Locke. To say this is high praise for any book that undertakes to enlighten us concerning the teachings of a philosopher about whom so much has been written, both during and after his lifetime, as about the great English thinker. It is praise that cannot be withheld from an author who has taken his duties as historian, interpreter, and critic so seriously as has Professor Carlini, and who has done his work so conscientiously, in so scholarly a fashion, with such discriminating judgment and such sympathetic understanding of the subject of his story. We are greatly assisted in our comprehension of the Englishman's thought and of its importance in the history of philosophy by the careful study, made by the Italian writer, of the development of his ideas and of the intellectual movements of the seventeenth century which influenced him either positively or negatively. The great thinkers know their times and take account of the diverse currents of thought that characterize them, and Locke was no exception to the rule; indeed, it is remarkable how well acquainted he was with them, and how deeply interested. To study him, therefore, historically, in the setting of his age, helps us to understand his problem, the obstacles placed in the way of its solution, and the problems which he had to leave to the future to unravel. In this connection, the accounts of the English scientific movement (Vol. I, pp. 53ff.), which was quite virile; of the Port-Royalists (pp. 159ff.); of the Cambridge school (pp. 235ff.); of the controversy over innate principles in England (Culverwell, J. Smith, Whichcote, More, Parker, Cudworth, Cumberland) (Vol. II, pp. 7ff.) are very instructive. The relation of Locke to Bacon and Descartes is treated in an able

and independent way (Vol. I, pp. 23ff.): we are taught that Locke was not a mere continuer of Bacon and Hobbes, that the spirit of Descartes transformed the Baconian element in him, and that he was in a sense more of a Cartesian than Descartes himself. There is a wealth of bibliographical material in the Introduction (pp. xiii–xciv), containing the titles of and brief remarks on the principal books on Locke, and of English, French, and Italian editions of his works; a bibliographical and historical index, with helpful descriptions, *un indice ragionato,* of the minor writings, arranged according to subjects, and of his correspondence; and a similar index of editions, translations, and compendia of the *Essay.* All this is followed by an illuminating study of the order and the history of the composition of the *Essay* (pp. lxxv–xciv): the author's conclusion being that the *Essay* was originally conceived in two parts, Ideas and Knowledge, the subjects of Books II and IV, and that these still remain the two central ones. There is also an Appendix (Vol. II, pp. 287–365), in which he discusses the critics of Locke, beginning with those contemporaneous with him; such critics as have studied his work with due regard to its historical importance. This, too, is a useful phase of the book; one that will be welcomed by students.

Since Hegel's time historians of philosophy, conceiving the history of philosophy as a logical process, have been tempted to force the great systems into logical rubrics into which they do not always happen to fit; and Locke is one of the masters who does not seem to have fared well under such treatment. A great deal of misunderstanding has been caused by the *tabula rasa* analogy and by his polemic against innate principles—it will be remembered that Kant called his work "a physiological examination of the soul"—he has been described as an empiricist and sensualist and sharply set off with Bacon and Hobbes against Descartes and Leibniz. In the endeavor of historians to label him and to stow him away into his particular pigeon-hole, his philosophy has been made simpler than it really is and its chief purpose often lost sight of. Professor Carlini is right in rejecting the interpretations which, like Hegel's, fail to see that the problem of the *Essay* was not psychological, but epistemological: "to know in point of fact how far our knowledge can reach." His view is about as follows: Book I, on innate principles, was intended to clear the way for the philosopher's real task; he regarded the doctrine of innate principles as antagonistic to the very essence of the *Essay,* but it was being proclaimed by an important group of contemporary English

thinkers, and the treatment of the subject, therefore, seemed opportune. In Book II the psychological question of the origin of our ideas—how every man may come by them—is taken up in order further to discredit nativism and in the conviction that the study of the question would throw light upon the fundamental problem of the extent and validity of our knowledge. The Port-Royalists had performed a somewhat similar task in their Logic. Book II, then, does not represent Locke's final philosophy, which does not limit itself to an inquiry into the origin of ideas, but it does lay the foundations of it and is the most important book historically. Knowledge is found to originate in experience (sensation and reflection), which furnishes the materials of our knowledge, that is, ideas: in experience "all our knowledge is founded, and from that it ultimately derives itself." Experience is not a knowledge already given, but, as Locke constantly insists, knowledge in the process of becoming, of being acquired and won by our own powers. We are born ignorant, but we grow in wisdom through the activity of the mind upon the concrete experiences of our daily life, and we must actively seek after it.

Locke is an empiricist in the sense that he regards ideas, which have their basis in experience, as the objects of our knowledge. But he goes further; he offers a critique of experience; experience is his point of departure, not his destination. Professor Carlini does not forget to point out the Kantian germ imbedded in his thought: the presupposition of all knowing is the active spirit with its intrinsic powers, what we might call the synthetic activity of the mind. The mind "repeats, compares, and unites"; it is a perceiving, retaining, abstracting, comparing, discerning, judging, reasoning mind, a relating mind. "The foundation of all our knowledge lies in the faculty we have of perceiving the same idea as the same and discerning it from those that are different" (*Essay*, Bk. II, chap. viii). Perceiving seems to be an act of self-consciousness, an original synthesis; sensation and reflection are one, never disjoined, an original act. The simple ideas are in a sense products of the active mind, and all the others, the complex ideas, owe their existence to the synthetic activity of the mind, being formed out of simple ideas: they are modes of representation. Locke even has his categories—a motley array, to be sure—ideas of substance, causality, relation, identity, change, existence, space, time, etc. Here were thoughts that suggested problems which have occupied philosophy for centuries after!

The difference, however, between the Englishman and the sage of

Königsberg is significant; Professor Carlini describes it in the following terms: "The Lockian criticism is empirical, Kant's transcendental; the former considers the content, the latter the form of our knowledge; the former aims to demonstrate the subjectivity of the world of which we have experience, the latter the objectivity of the knowledge which the subject has of the world; but the one is certainly a necessary element of the other: without Locke, Kant would not be explained, but the nature of the two critiques is completely different" (Vol. I, p. 75). He finds a basal difficulty in the method of Locke, "a method which, since Kant has seemed and really is, from the Kantian standpoint, self-contradictory": "When the understanding analyzes itself, it is not observed that this is possible for it in so far as it is the original synthesis; when it is observed to be a synthetic activity, it is no longer original" (pp. 75ff.). This is said to be the gravest difficulty in the exposition of the second book, and the one upon which all the others depend. The contradictions of Locke have often been exposed, but it is not very fruitful to exemplify them, our author declares, when the fundamental contradiction is understood, while the various defenses that have been attempted of them are hardly convincing if this basal contradiction be not admitted. Among the many examples of the difficulty Professor Carlini refers to the case of Fraser, who criticises Green for holding fast to the old view that perception is for Locke a passive state of the mind, and who cites many passages from the *Essay* to prove that it is an active state of the subject. It is shown that both contentions are right, though for different reasons: considering only synthetic activity as activity, Locke is able to say that "in bare naked perception the mind is, for the most part, only passive"; and yet he constantly maintains that it is impossible to perceive without apperceiving—that is, that perception is an act or operation of self-consciousness.

The psychological method also led Locke into an impasse; the limitations which he had placed upon the synthetic activity paralyzed its spontaneity, Professor Carlini shows, and prevented the solution of his problems. His simple ideas created a barrier for him which could not be overcome: he had shut himself in a house of ideas from which there was no exit. And so in Book IV he is driven to the conclusion that we can know only the relation between ideas. Here, again, the possibility of a solution of the problem of knowledge by means of the synthetic concept of knowing looms up: knowledge is synthesis of ideas, not mere analysis, which gives ideas freed from

their relations. Here, again, a path to knowledge was opened, for it is the relations that make ideas what they are, it is the form that gives cognitive value to the content: the more relations a thing has, the profounder our knowledge of it, the better our understanding of it. But Locke's method placed obstacles in his way that made progress in this direction impossible. We obtain nothing but a "vision" of the relations, a synthetic knowledge *a posteriori*. Moreover, the ideas are said to be independent of their relations: the relations do not make them what they are. Finally, mathematics is made the model for all true knowledge; and so "all the knowledge we have, or possibly can have [of Natural Philosophy], cannot be brought into a science." We can have genuine knowledge, necessary knowledge, only in mathematics and ethics, where we deal with notions that are "creatures of the mind." We can have no such knowledge in natural science because we do not understand the necessity of the relation between the qualities of a thing, their necessary connection. And so we reach the strange result: from experience we derive all our ideas, and yet true knowledge is independent of it; the truths of mathematics express immutable relations, which have no reference to experience, and cannot, therefore, be denied by it. Perhaps we may say that the key to the solution of Locke's problem lay at hand in his conception of the active synthetizing mind; at any rate, this solution suggests itself: the relations between ideas are understandable because the mind itself creates them; the world of experience is intelligible because it is rational, the revelation of reason, bone of its bone and flesh of its flesh. But our philosopher was prevented by the limitations of his method and its results from following this line of thinking; he left his successors a rich heritage of difficulties. These difficulties, Professor Carlini maintains, cannot be said to have been solved even after the Kantian critique, "because they presupposed the solution not only of the apriority of the categories as mental forms immanent in empirical knowledge, but also the deduction of these same categories from the pure activity of thought; nay, more: the demonstration (which is an achievement of contemporary philosophy) that all the categories are resolved in the act of the mind in the life of which the constantly renewing history of concrete experience itself is being realized" (Vol. I, p. 79).

Frank Thilly.

Cornell University.

Studies in Christian Philosophy, being the Boyle Lectures, 1920. By W. R. MATTHEWS. London, Macmillan & Co.—pp. xiv + 231. Twelve shillings net.

The last decade has witnessed several notable additions to the literature of that peculiarly English philosophical movement which seems to have appropriated for itself the name of Ethical Theism and which goes back very largely to the writings of Campbell Fraser and Martineau. We have had especially Mr. Balfour's *Theism and Humanism*, Professor Pringle-Pattison's *Idea of God*, Professor Sorley's *Moral Values*, and Professor Clement Webb's *God and Personality*—all of them Gifford Lectures delivered in the Scottish universities and representing, on a broad view, the same general tendency of thought. There seems no doubt that these volumes, and the very considerable literature of which they are but the most important examples, are indicative of a reaction against the very confident English Hegelianism so widely sponsored in the previous generation.

To this new literature Professor Matthews's book essentially belongs. It does not represent as original and independent a contribution as any of the four volumes above mentioned, but it is a good and welcome book none the less, with some very solid thinking in it, and not a little that is really new and significant. On the whole we are perhaps as much reminded of Dean Rashdall as of any other writer, and, indeed, acknowledgment of his influence is made in the preface; but Professor Matthews's thought has a more flexible quality and shows a greater readiness to allow the burden of the argument to fall rather upon ethical insight than upon cosmological speculation.

Of the six lectures which the volume contains, the first two seem very much less excellent than the remaining four, which form a unit by themselves and are practically a continuous argument in defence of Theism. The third lecture is an endeavour to show that Theism is a 'live option' as an explanation of the world. The other cosmological hypotheses which are here, as everywhere in the volume, considered to be 'live options' are Absolutism, Pluralism, and Vitalism—from which it will be seen how modern are the terms in which the discussion is carried on. Naturalism, in however 'polite' a form, is no longer allowed the status of a 'live option'; a finding which must surely make the ashes of certain giants of the nineteenth century restive in their urns! The fourth lecture is an attempt to clinch the preference for Theism by an appeal to the 'Moral Argument.' Theism, it is argued, is the only hypothesis which can adequately

explain the facts of the moral consciousness. This lecture, which had already appeared in shorter form in the *Proceedings of the Aristotelian Society*, is well worth reading even after one has familiarised oneself with Professor Sorley's more detailed statement. At one point, however, Professor Matthews seems very unwisely to depart from the Kantian position that the dictates of conscience, though seeming to carry with them as corollaries certain theological beliefs, are yet apprehended as absolutely binding independently of any such beliefs. The principle of Rational Benevolence, he argues, is not self-evident, but depends for its rationality on a Theistic view of the world. It may be true that Kant's distinction between a Theological Ethics and an Ethical Theology is not an entirely easy one, but it represents something in the facts. And, at any rate, Professor Matthews cannot have it both ways. If he is to support a Theistic cosmology by resting it on our apprehension of moral value, he cannot make our apprehension of that value dependent on the adoption of the Theistic view. The fifth lecture is a defence of the applicability of the conception of personality to God and follows lines that are fairly familiar. The concluding lecture on the idea of Creation is perhaps the most original bit of writing in the book. The influence of Professor Pringle-Pattison is obvious, but there is also much that seems genuinely new. Of special interest are the four pages (208–211) in which the possibility of a spiritual being who is at the same time free and created by another is defended against Dr. Bosanquet's objections.

Something must now be said about the first two lectures. The second is entitled "The Christian View of the World," and is an endeavour to answer the historical question, What is Christianity? The problem is a notoriously difficult and elusive one, and the present summary statement will hardly be held to meet our need. Professor Matthews scarcely displays the same mastery as a historian that he does as a philosopher. Central importance is given to the dictum that "the most obvious contrast between the Christian civilisation and all others is that it is progressive. . . . Deeply rooted in the mind of Western civilisation is the idea of progress." But this is a statement that seems to stand in need of more justification than Professor Matthews offers us. The view is not uncommon that the Christianity of the Early and Middle Christian Ages was essentially unprogressive, and that the idea of progress is essentially modern, born of the Renaissance and *Aufklärung*, and therefore due rather to the supersedence of the traditional Christian cosmology than to its triumph. Perhaps

this view is as one-sided as our author's own, but it has at least a half-truth in it that ought to be reckoned with. Again Professor Matthews's references to Greek philosophy hardly inspire us with the same confidence as does the rest of his philosophical equipment. He seems to rely largely on Windelband—who is not always the best of guides. On page 48, for instance, we read of "the criticism which Plato and Aristotle directed against popular religion"; but the name of Aristotle should not be included, for nowhere in his writings is there any hint of such criticism. Again on page 69 we read, "Neither Platonism nor Aristotelianism was, in truth, well adapted for the articulation of a religion whose God was above all ethical and personal. . . . Neither the eternal ideas of Plato nor the purely transcendent God of Aristotle were analogous to the personal and ethical God of the Christian religion." But surely nobody who had read the tenth book of the *Laws* could deny either that Plato conceived God as personal or that he conceived him as fully ethical. Professor Matthews evidently takes the view, here as elsewhere in the volume, that Plato identified God with "the timeless realm of ideas." That is not the view that is now being taken by our best Greek scholars, who hold that the distinction between ideas and souls is vital to Plato's thought, and that God is not an idea, but a soul. Granted, however, that Plato may or may not have identified God with the Idea of the Good, there can be no doubt at all that he conceived Him as a living soul. If he conceived God in both ways at once, he would be doing no more than most modern theists do, and perhaps no more than any theist who is not also a pluralist is bound to do. But the point is that it is most unreasonable to try to prove that Plato did not regard God as a living soul (which it is quite certain he did) by claiming that in a few passages he seems, like other theists, to identify Him with the Idea of the Good (which is at least doubtful).

The first lecture, mention of which we have left to the last, deals with the relation of religion to philosophy. The view taken is that "since we can draw no ultimate distinction between religion and philosophy, we are compelled to believe that the two are indissolubly united"; that "in idea and essence they are not separate" and "are in some sense identical," or at most "different aspects of one movement of the human spirit." It is evident that this view, which cannot be much older than Hegel, has taken deep root in the Anglo-Saxon theological mind, and is going to die hard. Professor Matthews states it with almost unusual baldness. Ritschl is as usual taken as

the representative of the opposing view, though in reality Ritschl has in this matter nothing to add to Schleiermacher and little to him whose life-work it was to "remove (metaphysical) knowledge in order to make room for faith"; and though, moreover, nowadays he finds himself in this particular regard in the otherwise doubtful company of Pragmatists, Vitalists, Modernists, Positivists, Sociologists of the school of Durkheim, and the majority of the anthropologists, too. Professor Matthews's criticism of Ritschl is no less wholly beside the point than most English criticism has been. It all seems based on the idea that Ritschl and his school are concerned to deny that religion presents us with any view of the real nature of things, and that this is what they mean when they claim that religion is independent of philosophy. There can be no doubt, however, that Ritschl's view was rather that religion alone is able to give us satisfying knowledge of the eternal world. The point of his contention was that religious knowledge was, as a matter of historical fact, derived solely from judgments of value, and has sufficient basis in such judgments; so that it is wrong in principle for theology either to seek the support, or to fear the opposition, of cosmological speculation of a wholly different order. And this is no less than the connecting thread on which the Kantian philosophy is hung. There is also a tendency in the chapter to suppose that Ritschl placed his reliance on *uncriticised* religious experience. As a matter of fact, Ritschl's whole work consisted in bold and even revolutionary criticism of religious experience—that is what *most* of his critics have had against him. What he was desirous of excluding was not criticism, but criticism by the application of standards foreign to the essential nature of religion. He is never willing to dismiss a false or defective religious belief by showing that it is out of accord with the current conclusions of natural science or with the views of any school of metaphysicians. He never feels that he has really dealt it a serious blow until he has been able to show that it is inadequate and unsatisfying from a *religious* point of view. And this he can only do by criticising it in the light of some religious principle, some higher insight into spiritual value.

JOHN BAILLIE.

AUBURN THEOLOGICAL SEMINARY.

NOTICES OF NEW BOOKS.

In Search of the Soul, and the Mechanism of Thought, Emotion, and Conduct. By BERNARD HOLLANDER. London, Kegan, Paul, Trench, Trubner, & Co., Ltd.; New York, E. P. Dutton & Co.,—Vol. I, x, 516; Vol. II, vii, 361.

This is a voluminous work, in which the author has indeed, as he himself confesses, set himself a gigantic task; but it is one in which every thinking human being is ready to be interested. Dr. Hollander's primary object is "to convey information and subject-matter for thought and inquiry, and by the exposure of the failures of the past to initiate new and more successful methods of investigation." He thinks that the book should appeal not only to physicians, psychologists, and the clergy, but to every educated man, which it will most likely do in some of its various aspects: "Wer Vieles bringt wird manchem Etwas bringen!" For in volume I it offers a "History of Philosophy and Science," from ancient times to the present day, while in volume II, which bears the title "The Origin of the Mental Capacities and Dispositions of Man and their Normal, Abnormal, and Supernormal Manifestations," it re-states the problems involved in these fields and gives "a mass of new facts and arguments based on some novel investigations." Here the attempt is made to lay the foundation for a science of character and conduct (Ethology); the author also furnishes what he considers evidence derived from his practice, of "the purely spiritual character of the mind," and shows the results of some unusual experiments in hypnotism which, in his opinion, "point to higher capacities being inherent in man than have hitherto been admitted." On the basis of all this material, he considers the nature of life, mind, consciousness, the problems of the soul and man's religious faith, and psychical research.

There will be little that is new to philosophers in the historical part of the first volume except the portion dealing with the nineteenth century, most of which is devoted to the doctrines of Francis Joseph Gall, "that much maligned and misrepresented genius," and to the history of modern brain research (pp. 199–444). The account of Gall's teachings is particularly valuable, showing as it does how thoroughly false the traditional popular conception of them is, and how remarkable were his scientific achievements. In this connection it may be said that Dr. Hollander accepts the theory of the localization of brain functions and makes use of it to explain the inheritance of acquired characters; only such changes are inherited as modify the nervous system, but these are inherited as ten-

dencies only: "wooden legs do not run in families, although wooden heads do."

In a final chapter, on the "Spiritual Nature of Man," Dr. Hollander gives some of his reflections on this subject with the understanding that they are purely personal opinions. Mental activity is purely spiritual, both conscious and unconscious activity, the latter, indeed, embracing by far the largest share of the mind. Mind, however, is not a self-existing, self-acting entity, but an energy acting on brain cells. For the manifestation of mind nervous centers are necessary, and the force playing on these centers can produce diverse and opposing mental manifestations; on the other hand, physical agencies can produce changed manifestations of the psychical activities. It is because mind is analogous to force that this is possible. The nature of this force is not known any more than the nature of the force of electricity is known; in both cases the force is invisible, intangible, immaterial; only its manifestations can be observed. The use of the word force by the author is unfortunate because the term in its scientific connotation means power to do work, and for him mind is wholly different from that; the mental phenomena are not motions nor are they the results of brain activities. He objects to calling the mind an entity, and yet he seems to conceive force as an entity, the nature of which we do not know but whose activities we observe. The significant thing, however, is that he means by mind something unique, not identifiable with chemical, mechanical, radiant, or electrical energy, a principle that cannot be explained by any of these. "No mechanical or chemical theory," he says, "can explain the creation of an original thought,—say the creation of a poem, or of a beautiful piece of music, before it is written down. True, the brain is a necessary instrument, and in some way retains the product of thought, poem, or melody" (Vol. II, p. 328). It is a misconception, he says, to hold that all man's mental manifestations are the result of brain activities. And, again: "Not all truth comes from without, some of the greatest truths have come from within . . . and that something within has so far escaped the instruments of the physiologist; nay even his contemplation" (p. 331). Statements like these suggest the notion of a creative mind. At the same time Dr. Hollander declares that the elements of our mental qualities have definite areas of the brain as their physical basis, and that these elements comprise not merely intellectual powers, but also emotions and propensities, a view which might seem to contradict his philosophy of mind. His meaning, however, is that in the case of memory, for example, it is not the brain cell that remembers; it is I who remember, who set this process of memory going, the *I*, I suppose, being the pure spiritual activity. Remembering is an act of the mind; brain cells do not remember any more than a series of reproductions in a phonographic record remember. But, evidently, without a brain there could be no recognition,

no memory, no feeling, no thought, in fact no mental activity: a force having nothing to act upon would not act. That is why an immortal soul (which for Dr. Hollander is not identical with the mind) having no body could do nothing: it is only a power, an activity, that does not act. It seems that the search for the soul ends in an empty abstraction.

It should be noted in conclusion that Dr. Hollander also rejects mechanism as an explanation of life. Life is not mind; for the manifestation of mind nervous centers are necessary; yet life cannot be explained without force. "We do not know what the force is that gives a bit of protoplasm the capability of a living, thinking, and loving being." "The mechanistic conception of life and mind is like regarding a symphony as vibrations of atmospheric waves. So it is, but that is not all" (Vol. II, page 327).

FRANK THILLY.

CORNELL UNIVERSITY.

The Thirteen Principal Upanishads. Translated from the Sanskrit, with an Outline of the Philosophy of the Upanishads, and an Annotated Bibliography. By ROBERT ERNEST HUME. Oxford University Press, 1921.—pp. xvi, 539.

This stout volume has been many years in preparation, and is probably destined to remain for a long time the standard English translation of the Upanishads. Its author, Dr. Hume, was born in India, the son of the veteran missionary of Ahmednagar. An early portion of his manhood activities also lay in India, and more recently he has been there during the preparation of a part of this work. His regular academic post, however, is that of Professor of the History of Religions in Union Theological Seminary, New York.

Dr. Hume has drawn to his support notable assistance. Thus, the introductory essay and part of the translation originally took form under the supervision of Professor E. Washburn Hopkins, of Yale University, deeply versed in both the religion and philosophy of every period of India; and the entire work has since been revised by him in manuscript. Further, the translation has derived much value from the patient effort of Dr. George Haas, for some years co-editor of the *Journal of the American Oriental Society*, whose scholarship, accuracy, and deep sympathy with India's thought have not yet met with due recognition, except in limited circles. Dr. Haas gave the work "the benefit of his scholarship and technical skill," "revised the entire manuscript before it went to press," afforded "generous assistance extending over a long series of years." It is believed that a large part of the precision of the translations is due to this quiet worker. Such service might well have been recognized upon the title-page also, and not simply in the preface.

Repeated testings show that the translation has been thoroughly well done. "It has been the aim of the translator to prepare a rendering that represents, as faithfully as possible, the form and meaning of the Sanskrit text. A literal equivalent, even though lacking in fluency or grace of expression, has been preferred throughout to a fine phrase that less exactly reproduces the original" (p. xii). Appreciating the value of this modest ideal, the execution seems highly satisfactory.

An introductory essay of some seventy pages devoted to an Outline of the Philosophy of the Upanishads adds greatly to the interest of the volume. And yet, perhaps this is the part which is most open to criticism. It seems to be written under the control of the dominant idea that the essential drift of the Upanishads is towards an abstract pantheism like that of Sankara. Assuming this *a priori*, the author reconstructs "what may very probably have been its order of development" (p. 69). A considerable amount of higher criticism is necessary to so arrange the literature that this result may stand out. But this is too clear by half. A dozen types of philosophical motives are operative in the Upanishad literature, and even in each stage of that literature. The whole question of effective systematization is a problem for the later metaphysicians, Sankara and Ramanuga and others. We must not read back into the Upanishads as such a perfection of pantheism which was as yet too advanced for them.

The author admits, indeed, that "There are not the chronological data in the Upanishads upon which an unquestioned order can be maintained throughout" (p. 70). "The purpose has been, therefore, to discern the different tendencies that are undoubtedly present in the philosophy of the Upanishads, and to present them in what seems the most probable order of development. For the purposes of exposition there have been followed out and connected with each other certain lines of thought which in the actual development of the philosophy could hardly have been as independent as they are here set forth."

Precisely. But this mild statement covers a strongly partisan interpretation of the development and meaning of this entire literature, colored in the interest of the Sankara school, and going far beyond the facts. The very name of Ramanuga does not even occur in the ample index, while Sankara is cited nearly two dozen times. Is such a literary method justified, even when avowed? To be sure, the author's ultimate purpose is not to foster orthodox Brahmanic pantheism. "Can such faith in such form, although it has laid hold of the profound truths of ultimate unity and spirituality, be expected to furnish the highly inspiring religion of progress and the elaborately articulated philosophy correlated with science, which modern India demands?" (p. 71). "Would that the people of Rome had only one neck."

But the theistic elements and tendencies in the Upanishads need a larger

recognition than this essay affords. It may be that India can make such a development of these elements as to serve her essential needs without sacrificing the vital meaning of the Upanishad literature.

E. L. HINMAN.

UNIVERSITY OF NEBRASKA.

Les Philosophies Pluralistes D'Angleterre et D'Amérique. Par JEAN WAHL. Paris, Félix Alcan, 1920.—pp. 323.

This illuminating study of Anglo-Saxon pluralism will be heartily welcomed by the English-speaking world. One of the chief of its many merits is that from first to last it views this pluralism in its setting or context in recent thought and life. Thus, in Book I (pp. 1–36) the author examines English and American monism, carefully characterizing both the pluralistic moments and tendencies in monism itself, and the moments and tendencies against which pluralism arose as a protest. Book II (pp. 37–100) surveys the various influences (German, Polish, French, English, and American) which entered into the formation of Anglo-Saxon pluralism. A brief characterization of *l'esprit anglais* and of *l'esprit americain* is included here. Books III and IV contain expositions of a variety of Anglo-Saxon pluralisms together with analyses of the criticisms of monism submitted by the several types. Book III (pp. 101–175) treats the thought of William James; Book IV (pp. 176–238) pluralistic idealisms and realisms, and pluralistic tendencies in certain psychologists and logicians. These pluralisms are exhibited in their interrelationships as well as in their relation to monism. In the Conclusion the author passes in review the main features of pluralism and contrasts them with some of the more distinctive features of monism and monadism. He also traces the stages in the development or dialectic of pluralism. It is maintained that in a general way these main features and stages of pluralism may be connected with diverse and varying needs, temperaments, and intellectual preoccupations of the different pluralists, or with the various influences under which they successively came. Two types of contradictions in Anglo-Saxon pluralism are noted. The first may be illustrated by the apparent affirmation and denial of the existence of substance, and can perhaps be solved within the bounds of pluralism. The affirmation of both the universal participation of things in one another and the complete isolation of some from others may be taken as an instance of the second type. This type forces us to transcend pluralism. Certain inadequacies of pluralism and of monism are pointed out. Pluralism is said to oppose falsely ideas which imply one another: the absolute and the relative, the infinite and the finite, the eternal and the temporal. Or, again, "the idea of elements is no less abstract than the idea of whole; the real is concrete totality" (p. 259).

Finally, attention is called to a number of ideas which seem to be common to both monism and to some or all forms of pluralism; *e.g.*, the affirmation of both the immanent and the transcendent together with the attempt to unite the two.

The scope of the study is thus much broader than the title at first suggests. Indeed, the work approaches a fairly complete survey of contemporary issues of thought. It is true that there are omissions, the most regrettable of which is perhaps the absence of any allusion to so important a thinker as S. Alexander. Nevertheless, one can have little but praise for the judgment and skill with which the author threads the maze of pluralisms and monisms that confront him. Throughout, he keeps the central issues in the center of attention. And in portraying pluralism for what it is, he is no less successful than in preserving its context.

Raymond P. Hawes.

Goucher College.

The Rudiments of Relativity. By John P. Dalton. Johannesburg, Council of Education, 1921.—pp. vi, 106.

Numerous as are the popular expositions of Einstein's theory, it is still possible to present it from a new and freshly illuminating point of view—witness the present volume. The book consists of four lectures originally prepared as a Presidential address to the Scientific Society of University College at Johannesburg, and the author has happily succeeded in retaining the impression that he is talking to his readers. Perhaps the unique value for the general reader, of Professor Dalton's work, consists in his success in clarifying certain mathematical features of the relativity theory, too often passed over as self-evident or of relative unimportance. For example, he takes care to distinguish between intuitional (*i.e.*, psychological) time and our mathematical reasoning about it. "A time-scale cannot be intuitional; it must be conventional" (p. 3). The mathematical term 'invariancy' is thus defined: "We sacrifice immediacy of perception in order to gain sameness of description . . . in technical language we speak of a description which is the same for all members of a group of observers as being *invariant* for that group" (p. 6). In other words invariancy is a means of conceptualizing the physical universe as in some respects the same for all observers; the individual and subjective elements inherent in particular observers are so far eliminated.

If the author did nothing more than to explain this highly significant mathematical concept his book would justify itself in the eyes of many a perplexed reader of current relativity literature. But he goes on to define and explain, often with helpful illustrations, other equally technical and important terms. His distinction between 'observational' and 'inferred' simultaneity (p. 47), the latter relating to events occurring at

different places, is most instructive. And the price we must pay for the extent of physical nature covered by Einstein's equations, Professor Dalton forcibly brings to our attention: The new law of gravitation "is formulated in 10 differential equations: each equation involves 25 terms; these terms are built up out of 40 symbols, and each of these symbols is obtained by summing 12 terms" (p. 80). As for the bearing of the theory of relativity on ultimate problems the author remarks that "We must not base our philosophy upon a misinterpretation of the abstractive method of mathematical thought. . . . Would any of us care to assert that a mother rocking her cradle is the same thing as the reception of a wireless signal because they are covered by the same differential equation?" (p. 25).

H. R. SMART.

CORNELL UNIVERSITY.

The following books also have been received:

The Meeting of Extremes in Contemporary Philosophy. By BERNARD BOSANQUET. London, Macmillan & Co., Ltd., 1921.—pp. xxviii, 220.

The One Way. By JANE REVERE BURKE. New York, E. P. Dutton and Co., 1921.—pp. xxiv, 152.

Rigveda Brahmanas: The Aitareya and Kausītaka Brāhmanas of the Rigveda, translated from the original Sanskrit by ARTHUR BERRIEDALE KEITH. Being vol. 25 of the Harvard Oriental Series, edited by CHARLES ROCKWELL LANMAN. Cambridge, Mass. Harvard University Press, 1920.—pp. xii, 556.

The Foundations of Psychology. By JARED SPARKS MOORE. Princeton, Princeton University Press, 1921.—pp. xx, 240.

The Tragic Sense of Life in Men and in Peoples. By MIGUEL DE UNAMUNO. Translated by J. E. CRAWFORD FLITCH, with an Introductory Essay by SALVADOR DE MADARIAGA. London, Macmillan and Co., Ltd., 1921.—pp. xxxvi, 332.

Christian Philosophy. By J. GURNHILL. London and New York, Longmans, Green and Co., 1921.—pp. xii, 100.

The Spirit of the Common Law. By ROSCOE POUND. Boston, Marshall Jones Co., 1921.—pp. xviii, 226.

Philosophie de la Guerre. Par JACQUES DUHELLY. Paris, Félix Alcan, 1921.—pp. 218.

L'Evolution Universelle. Par BRANISLAV PETRONIEVICS. Paris, Félix Alcan, 1921.—pp. viii, 214.

L'Origine Commune des Religions. Par ANDRÉ LONGUET. Paris, Félix Alcan, 1921.—pp. vi, 196.

SUMMARIES OF ARTICLES.

[ABBREVIATIONS.—*Am. J. Ps.* = *The American Journal of Psychology*; *Ar. de Ps.* = *Archives de Psychologie*; *Ar. f. G. Ph.* = *Archiv für Geschichte der Philosophie*; *Ar. f. sys. Ph.* = *Archiv für systematische Philosophie*; *Br. J. Ps.* = *The British Journal of Psychology*; *Int. J. E.* = *International Journal of Ethics*; *J. of Ph., Psy., and Sci. Meth.* = *The Journal of Philosophy, Psychology, and Scientific Methods*; *J. de Psych.* = *Journal de Psychologie*; *Psych. Bul.* = *Psychological Bulletin*; *Psych. Rev.* = *Psychological Review*; *Rev. de Mét.* = *Revue de Métaphysique et de Morale*; *Rev. Néo-Sc.* = *Revue Néo-Scolastique*; *Rev. Ph.* = *Revue Philosophique*; *Rev. de Ph.* = *Revue de Philosophie*; *R. d. Fil.* = *Rivista di Filosofia*; *V. f. w. Ph.* = *Vierteljahrsschrift für wissenschaftliche Philosophie*; *Z. f. Ph. u. ph. Kr.* = *Zeitschrift für Philosophie und philosophische Kritik*; *Z. f. Psych.* = *Zeitschrift für Psychologie und Physiologie der Sinnesorgane, I. Abtl. Zeitschrift für Psychologie.* — Other titles are self-explanatory.]

SUMMARIES OF ARTICLES.

Auguste Comte et Durkheim. F. PÉCAUT. Rev. de Mét., XXVIII, 4, pp. 639–655.

In what respects does Durkheim agree with and differ from Comte? Both believe in a spiritual reality which transcends individuals and sets to them a supra-individual destiny. Comte defines a social fact as what results from the solidarity and from the continuity of generations. Durkheim derives it however from his concept of collective consciousness which involves a necessary unity and carries us beyond diversity. This unity in turn is conditioned by geography, population and history.

In the nature of morality the views of each differ more fundamentally. To Durkheim morality is relative and posterior to the society which creates it for its own preservation. Thus both intolerance and tolerance would have their justifications at different times. Otherwise morality would not be subject to social determinism, which according to Durkheim is an indisputable condition of a science. Different moralities have only one unity of function, namely, to integrate the individuals and preserve their group. Furthermore, such moralities cannot be compared because each respective underlying social type is unique. Hence the criterion of social integration is the nearest approach that Durkheim makes to the ultimate ethics of a Kant or a Comte. But moral autonomy and choice would derive not from reason or a prior human nature but from a previously given society.

For Comte, neither Society nor Humanity would include egoists. For him too, an ultimate morality does not arise from a given society but inspires the one which is to be constructed. Hence definitive moralities

derive their value not from their respective societies but from that perfect society which terminates their social development and within which reigns a unity of heart. This is reminiscent of Kant's Ideal of a unity of wills. Thus the will for the unity of wills is akin to the love of social benevolence and almost of the same nature. But Comte would not have followed Kant in placing Reason and Morality above life. According to him both would have only pragmatic value in conserving and advancing the life of Humanity. In opposition to Kant, Comte would hold that morality is immanent in life; and in contrast to Durkheim, that morality is prior to and fashions society.

Comte is not less a positivist "because the factor which created morality is in experience and operates in experience. That factor is human nature. But this nature is prior to that social determination which is subordinated to life itself to realize itself." Hence his morality is a positive philosophy and not a positive social science in the strict sense.

Durkheim confines morality exclusively to the conditions of that science which he undertook to advance; and in order to preserve its possibility, he assigns to it an existence somewhat posteriori and subordinate to social reality.

WOOLF COHEN.

Functional Psychology and the Psychology of Act. E. B. TITCHENER. I. Am. J. Ps., XXXII, 4, pp. 519-542. II. Am. J. Ps., XXXIII, 1, pp. 43-83.

Part I—Functional Psychology.

Because they lie outside the scope of a proposed Systematic Psychology, these criticisms are given here. For Ladd, a typical functional psychologist, psychology is "the science which describes and explains the phenomena of consciousness, as such." He has two notions of consciousness: the notion of consciousness as the sum-total of conscious states which make up the experience of an 'I,' and the notion of consciousness as the observing activity of this 'I' itself. The complete datum of psychology, though intrinsically unitary, is capable of logical abstraction into awareness knowing and awareness known, that is into function of consciousness and content of consciousness. Four criticisms of Ladd's definition of the psychical as subject-matter for the science may be offered. (1) His 'science' really falls outside of the circle of recognized sciences. It makes no distinction in kind between inspection and introspection. Its subject-matter is unique in its logical constitution, and in its self-determination. (2) His 'facts of consciousness' are ambiguous and unstable. (3) Similar ambiguity is manifest in the logic of his system. (4) The science he sets forth is not an organized system. Functional psychology in general is open to serious objections. (1) It distinguishes between

'function' and 'structure' or 'content.' This biological distinction is now antiquated. (2) Such systems tend to the mistaken conclusion that consciousness is merely a recurrent grappling with problems. (3) They are teleological, and so unscientific. (4) They dissipate their energy in other fields than their own.

Part II—Psychology of Act.

The psychologist of function works in a biological atmosphere, the psychologist of act in a logical, or epistemological atmosphere. Brentano, the pioneer in the psychology of act, defined psychical phenomena as those 'which intentionally contain an object.' They are all 'psychical acts'; their 'contents' are primarily physical and secondarily psychical. They "either are ideations or . . . rest upon ideations." The schools of Meinong and Husserl point out that this definition identifies the 'content' and the 'object' of act; whereas, they hold, these must be kept separate. Muensterberg objects that the specified acts are not logically co-ordinate, the act of ideation being given the priority. Stumpf distinguishes between the content and the object of an act, but he could not admit the validity of Muensterberg's objection. For Lipps, the 'acts' are punctiform 'doings' of the conscious I and are of various sorts. All these psychologists agree that consciousness is by its very nature intentional, that it transcends itself and refers to objects beyond it. In criticizing the psychology of act as a whole, we note that there are numerous psychologies of act, but no psychology of act 'as a whole.' Three criticisms, however, may be offered. (1) The classification of phenomena is objectionable. Classifications differ radically with different writers. Even the same writer frequently has to change his classification; witness Stout and Lipps. Stout appears to transgress the boundaries he originally set, and Lipps has to add an implicit to an explicit intentionality in order to save the principle. Thus intentionalism appears inadequate to its subject-matter. (2) Sensation is a source of real difficulty to the act-systems. They can find nothing simpler than the perception of external objects; but we know that sensation is logically prior to perception, and yet is not obviously intentional. (3) Attention is another stumbling-block for the act-systems. Their treatment of it rests upon a basis of pure perception. Lipps admits this, but he finds no objection in the fact. The differences in the act-systems depend on the personalities of their founders. Intentionalism thus does not appear to be impersonal and scientific. Functional psychology will soon pass out, but intentionalism will remain because it is based on a common-sense view of mind.

E. H. Henderson.

Is There a Universal Moral Standard? FRANK CHAPMAN SHARP. Int. J. E., XXXII, 1, pp. 72–99.

Ethical subjectivism, long neglected, has now a large following, and would invalidate the formation of any moral code binding upon mankind as a whole. Traditionally it has been opposed by ethical rationalism and the various forms of egoism, and this paper purposes to dispute the widespread supposition that the recent decline of these systems leaves subjectivism in possession of the field. Its strongest claim to consideration rests on the actual variations in the moral judgments of the race, but in the first place many of these are shown to be apparent rather than real in that they reduce to differences not of moral standards but in opinion concerning the effects of actions. But true moral judgments always concern the intentions or purpose; and this fact will also lead us to eliminate variations of judgment based upon feelings of disgust, contempt, or admiration, which similarly, being properly esthetic judgments, are not determined by any evaluation of the ends at which the purpose aims. Important variations in genuine moral judgments, however, still remain, and these all deal with competing claims of various sets of interests. Egoistic considerations are foremost in warping the judgments in the estimating of these claims, even, through the operation of the imagination, where the egoistic interests of the person judging are not involved; and this influence of the imagination, lighting up one side of the picture to the exclusion of another, is again largely traceable to accidents of experience. In addition to these stimulating effects of the imagination there are those of certain depressants, such as familiarity and fatigue, but apart from these there is the possibility of a purely objective evaluation of the interests involved based upon that benevolence in which the moral judgment probably, though not for the purposes of our argument necessarily, has its source. Such an objective judgment may be said to be passed from an impersonal point of view. Right action will be that which is approved by an impersonal judge, and the right purpose that which we desire everyone to adopt under the conditions in question. Thus provisionally we may formulate the ultimate valid standard of morality, which demands that we aim to produce the maximum of good obtainable under the conditions. There are, however, other sources of deviation from the valid standard besides those already enumerated. First there are likes and dislikes, including the influence of emotions of tenderness or those connected with blood relationships or with a consciousness of kind. Next may be classed preferences based upon admiration, approbation, or thankfulness. These have persistently conflicted with the true objective evaluation, but must be eliminated, though not necessarily offending against the prescription of impersonality, in deference to a demand for consistency among our moral judgments. This consistency is in reality persistency, and the single monarch of the moral kingdom is the principle

of objective evaluation, with which increasingly the victory lies. Finally resentment and envy, forms of malevolence, introduce a new psychological factor but may be excluded from the field of morality. In conclusion, therefore, all moral judgments are seen to turn on the question: What interest or set of interests has the superior claim? Objective evaluation in terms of the claim of the greater good furnishes the answer, identical for all the race, a conclusion which may be reached not dogmatically but through a study of the workings of the ordinary mind. The demand for consistency is bound up with the very nature of the will.

R. B. Cooke.

The General Nature of the Conditions Which Determine Development. J. F. Turner. The Monist, XXXI, 3, pp. 367–381.

The Universe, differentiated throughout, is for philosophy a system. Moreover it is composed of individuals, each of which is itself a system, the subject-matter of some department of science. Every natural system is a developing one, all states of equilibrium arising out of dynamic conditions which at the moment counteract each other. In spite of slight actual detailed evidence, we can to some extent trace general conditions of development, ascertaining the universal characteristics of embryonic and mature stages, respectively. An origin must have some degree of systematic structure, of such a nature that continuity exists between it and all later stages; for the idea of mere change is abstract and superficial. Actual experience shows development from origins; that is, the progressive combination of diverse systems into an increasingly complex whole. Although simplicity has been considered an attribute of origins, the living germ, at any rate, we find as complex in one way as the adult organism in another. The essential characteristic of origins is, rather, the mode of their complexity; their structure being such that each of the constituents, while all remain together, is capable of entering into a series of combinations continuously until a new less plastic system has been formed. If this transformation of the mode of complexity were complete, development would cease. In some way or other the mature system, stable and more or less rigid, must conserve the special mode of structure characteristic of origins; as living organisms do in reproductive elements. Reality, then, regarded as a developing whole, everywhere presents two aspects, the one indispensable to the other: the "durational" aspect, emphasized by Bergson, and the aspect of regularity or mechanism. The specific potentiality of origins appears to be due to their advanced level of organization, the ground of which must be sought in some such philosophic principle as the "Conversation of Value." The fixed character of the organic germ and the comparative constancy of the environment of the organic world make group mutation necessary to ensure variation; wherefore the plasticity of organic development may be called specific

rather than individual. In social and historic progress wider influences come into play, for the environment itself is rapidly developing and every evolving system modifies the growth of its fellows. The consideration of the material basis of organic germs suggests one further principle applying to all systems highly sensitive to external stimuli: that the quantity of each constituent must be relatively small, lest the total quantity requisite to maintain the specific complexity become too unwieldy.

HELEN H. YOUNG.

De quelques espèces d'égalités et de quelques-uns de leurs avantages ou inconvénients. ADRIEN LAVILLE. Rev. Ph. XLVI, 9–10, pp. 145–172.

Does justice consist in equality—is its symbol the doubly equal square, as the Pythagoreans declared? Or, is justice to be found in "social equilibrium" (*i.e.*, social equality), as Vilfredo Pareto seems to suggest? By social reformers, beginning with the revolutionaries of 1793, equality has been placed even before liberty, safety and property, as one of the fundamental *rights* of man. Similarly, the feminists of our own day clamor for equality as a right. The equality which sociology seeks is really a psychic equality, the equality of pleasures. It is not absolute identity; it is not uniformity; far from excluding, it really presupposes diversity. And it is this psychologic aspect which makes the problem so difficult to solve. From this point of view we must consider two aspects of equality: (1) The equality of *reciprocity*, or the equality *in exchange*, exemplified in the give-and-take of economic exchange, where a man receives what he pays for, or works for. (2) The *individual balance-sheet* equality, where the pleasures of one or more individuals are approximately in balance. The opposition between these two kinds of equality is obvious at every turn. Inequalities of birth, for example, will be increased as life advances, because the men innately stronger will be able to work more effectively, and according to the equality of reciprocity, each man must get a return in proportion to his effort. Similarly, where there is not "equal pay for equal work" (irrespective of sex), the principle of equality of exchange is violated. If this principle were applied uniformly, certain balance-sheet inequalities (those resulting from difference in sex) would also be removed, but others would arise from difference in individual ability, and these latter could not be erased by insistence upon equality of exchange. In order to eradicate balance-sheet inequalities, it would be necessary to suppress equality of exchange. But from the ethical point of view, such a procedure would not be justified, for it would undoubtedly choke progress by stifling incentive to creative ability. As a result everyone would lose the advantages of discovery and invention. Again in the political world, it is patently unjust for all citizens alike to have the franchise. A distinction should be made between the conscientious and

the indifferent or selfish citizen. Those who neglect their civic duties should be deprived of the vote. Similar questions might be raised as to the universal right to elementary education, free circulation from place to place, access to public museums, use of books in public libraries, etc. On the principle of compensation, the rights of men and women have hitherto been generally adjusted: To men, authority in the family as in the state, but at the same time heavy responsibilities, both civil and military. To women, often submission, inferiority in the eyes of the law and in the economic world, but on the other hand, special consideration, less taxing responsibilities, and no military service. Nowadays, quite a number of women, in the name of "equality," are demanding rights *identical* with those of men. They even demand the right to vote. But with identity of rights should go identity of obligation. "Do those *demoiselles* who wish to vote wish also to live the life of the barracks and of the battlefield?" Or are they ready or able to discharge onerous civil obligations? Obviously, it is impossible for the State to eradicate the innate differences between individuals which are based on intellectual ability, sex, physical health, etc. On the other hand the State can do much to obliterate differences in social condition, even when these exist at birth. In considering how far it is wise for a State to go in this direction, let us bear in mind that no society can safely dispense with the institution of the family (the root of most of these differences), or with social distinctions based on tradition and history. The progress of civilization depends upon individual differences both of family and of social class. There must, to be sure, be ample opportunity for individuals to pass from one class to another, but the class-distinction must remain. However, when we reduce balance-sheet inequalities in social condition, we at the same time produce other inequalities. Thus, when A advances from one social class to another, there is created an inequality between him and his one-time companions. Thus, the inherent opposition between these two principles of equalities remains. And it is to be found not only in the case of individuals, but also in the case of groups and of States. It is a problem which will undoubtedly cause much discussion in the Society of the Nations. Neither principle can be adopted to the exclusion of the other. They must be combined. How? I shall risk only one suggestion: the factor of *good will* must be controlling in the State as in the individual. In conclusion, let us remember that the individual has rights, ***but he also has obligations.*** He is a means as well as an end. As a means he must make sacrifices. He must be inspired by a devotion to the good of the whole; he must rejoice in his ability to contribute to the welfare of mankind; his duty must be his pleasure. In a society composed of such individuals the inequalities of balance would be greatly diminished.

L. S. CRAWFORD.

Che cosa e la Filosofia? P. CARABELLESE. R. d. Fil., XIII, 3, pp. 193-227.

Kant, it is generally admitted, taught us that reality is just concrete experience, and that there is a universal science—philosophy—of such experience. But none of his successors critically examined the real character of this all-inclusive 'science.' Rather they imposed upon reality a character due to their pre-conceived notions of the nature of philosophy. If now we admit, as it seems we must, that philosophers are practically justified in such a procedure, the question then remains as to what, as an element of this concrete reality, philosophy really is. If we begin by positing the post-Kantian concept of 'objectivity' there infallibly results a dualism and its inseparable companion, intellectualism. Both Gentile, who conceives of philosophy as the science of the 'pure act,' and Croce, who conceives of it as the science of history, in attempting to overcome the dualism of the purely intellectual position, have simply attained a more radical dualism of their own. From knowledge, as passive intuition of an object, we pass with them to active spiritual construction of it, but the object remains always the true, *i.e.*, the object of the intellect. And as a natural reaction against this extreme position there has arisen a negation, not only of the reduction of reality to truth, but of truth itself —a negation not so much wholly skeptical as indifferent, and as embodied in the various types of pragmatism. So long as the concrete object was conceived of as external to the knowing subject philosophy could maintain itself, but when the object comes to be found in knowledge, *i.e.*, is given to it, the result is that philosophy, striving for the maximum of concreteness, runs the danger of falling into complete dissolution. For example, the philosophy of the 'pure act' becomes pedagogy, political theory, art or religion, according to which one of these activities philosophy occupies itself with. So, for Croce, it only remains to study history. Does it not appear necessary to re-examine the nature of this concrete knowledge which is philosophy? The fundamental difficulty lies in the attempted conciliation of absolute universality with concrete determinateness. Now universality can never be given up, for it signifies unified objectivity as opposed to the many agents and ultimate identity of purpose in the face of diverse activities; and this constitutes the recognized human metaphysical needs. But to affirm that philosophy reveals universal mind is to call it neither knowledge nor concreteness but theory and abstraction. The actualization of this universal mind is always a determination of it in concrete activities and in particular persons. That is, self-realization necessarily implies abandonment of the identity and unity of pure philosophical objectivity. Thus there seems to be no possibility of retaining both universality and concreteness. Let us however consider the abstract terminations of the concrete whole (*e.g.*, subject and object); philosophy attempts to unite them in an embracing synthesis

which proves to be a never-ending process—an aspiration never completely realized. If the problem of philosophy is the interpretation of the various forms of reality, the making explicit of the implicit, the only solution is—a transcendence. Concreteness is synthesis not of singulars with themselves nor of universals with themselves but of the universal with the particular, of unity with multiplicity. With the attainment of philosophical insight this problem is seen to be that of the progressive individualization of the universal. We are constantly revising our fundamental concepts though in a sense they must remain unchanged. This is a demand implied in all human activity; in philosophy it is definitely explicit, since here we have the transcendent moment in which all concrete actuality seeks to come home to itself.

H. R. SMART.

NOTES.

Émile Boutroux.

One of the best-known contemporary French philosophers, M. Émile Boutroux, died at Paris, November 22, 1921. He was born July 28, 1845, in Montrouge (Seine), and became a pupil of Jules Lachelier at the École Normale supérieure (1866–1868). His long teaching career, at the Universities of Montpelier and Nancy, at the École Normale and at the Sorbonne, began in 1874, also the date of publication of his doctor's thesis, *De la contingence des Lois de la Nature*. Greatly interested in the relations of science and religion to philosophy, he also published, in 1895, a work entitled *De l'idee de loi naturelle dans la science et la philosophie contemporaines*, and in 1908 (his last book) *Science et Religion*. But while his investigations and conclusions as to the nature of scientific methodology and results thus were to open the way for the speculation of scientists themselves—chief among whom, no doubt, was his famous brother-in-law, Henri Poincaré—his main interest lay in the field of the history of philosophy. As a teacher he is said to have subjected the texts of the various historical systems to the most penetrating and minute examination, while at the same time clearly emphasizing the significant features of the doctrines under review, and as a writer in this field Boutroux revealed himself a master of the art of clear and comprehensive exposition. He translated the first part of Zeller's *Philosophie der Griechen* (1877–1882); produced a classic edition of Leibniz's *Monadologie* and *Nouveaux Essais* (1880–1886); and published other articles on Socrates, Aristotle, Boehme, Descartes, Pascal, Kant and William James. In all his thinking and writing Boutroux seized upon the most extreme oppositions in the various fields, and instead of conciliating or sterilizing them by mediating concessions, sought to dominate them by further fruitful reflections. Thus in his doctrine of 'contingency' he seeks to show that there is going on in nature a process, which it is the task of the various sciences each in their own particular ways to discover, of creating genuinely new wholes possessing new qualities, and infinitely richer in content than the mere sum of their parts. It is from this point of view, moreover, that Boutroux concluded his *Science et Religion* with the following words: "La raison s'ingénie à les rapprocher à travers leurs luttes, et à former de leur réunion un être plus harmonieux que chacune d'elles prise à part." In the *cher maitre* of Bergson and many another fellow teacher and student, in the member of numerous learned and educational societies, in the true 'man of the world' that was M. Boutroux, France has lost a son whose nobility of character and loftiness of intellect is universally recognized and admired.

BENNO ERDMANN.

Benno Erdmann, Professor of Philosophy at the University of Berlin, and member of the Berlin Academy of Sciences, died in Berlin January 7, 1921, in his seventieth year. Formerly he had been Professor at Halle, and visited America to participate in the scientific discussions at the St. Louis Exposition in 1904. He is the author of numerous studies on psychological problems and on Kant's Critical Philosophy. He also edited Kant's *Reflexionen* and J. E. Erdmann's *Geschichte der Philosophie*. Perhaps his best-known works are the *Logik*, of which only the first part was completed, and the *Psychologische Untersuchungen über das Lesen*.

The Southwestern Philosophical Association were the guests of Occidental College on the occasion of their second annual meeting, held December 28, 1921.

Dr. Bernard C. Ewer, of Pomona College, presented a paper on "A Dilemma in Ethics." Dr. James Main Dixon, of the University of Southern California, read a paper on "The Philosophy of Sympathy" as an expression of French and Scottish thinking. Dr. John W. Scott, of University College of Cardiff, Wales, this year Mills professor at the University of California, read a paper based on Rivers' treatment of Instinct and the Unconscious.

Extended discussion of the papers was had, and the following officers were elected for the coming year: President, Ralph Tyler Flewelling, University of So. Calif. Secretary-Treasurer, Henry Nelson Wieman, Occidental College. Member of the Executive Committee, Bernard Capen Ewer, Pomona College.

We give below a list of articles in current philosophical periodicals:

THE JOURNAL OF RELIGION, II, 1: *George W. Coleman*, The Contribution of the Open Forum to Democracy and Religion; *C. H. Moehlmann*, What are the Fundamentals of Christianity?; *Samuel S. Cohon*, The Mission of Reform Judaism; *W. C. Keirstead*, The Leadership of the Ministry in Industrial and Social Life; *J. M. Powis Smith*, Law and the Ritual in the Psalms; *Kenneth Saunders*, Glimpses of the Religious Life of New Japan.

THE INTERNATIONAL JOURNAL OF ETHICS, XXXII, 2: *Arthur Henderson*, The Character and Policy of the British Labor Party; *Benjamin Ives Gilman*, What is Liberty when Two or More Persons are Concerned?; *C. J. Cadoux*, The Individual Factor in Social Progress; *A. B. Wolfe*, Emotion, Blame and the Scientific Attitude in Relation to Radical Leadership; *Benjamin Ginzberg*, Hypocrisy as a Pathological Symptom; *A. H. Lloyd*, Leadership and Progress; *Rupert Clendon Lodge*, Plato and the Moral Standard, II.

THE BRITISH JOURNAL OF PSYCHOLOGY, XII, 3: *G. H. Thompson,* The Northumberland Mental Tests; *A. R. Grant,* A Study on the Perception of Form; *H. Hartridge,* A Criticism of Wrightson's Hypothesis of Audition; *L. Feasey,* Some Experiments on Æsthetics; *L. G. Fildes* and *C. S. Meyers,* Left-Handedness and the Reversal of Letters; *E. J. G. Bradford,* Factors in Mental Tests; *W. Whately Smith,* A Note on the Use of the Psycho-galvanic Reflex; *Mary Sturt,* A Comparison of Speed with Accuracy in the Learning Process.

JOURNAL OF EXPERIMENTAL PSYCHOLOGY, IV, 3: *Raymond Dodge,* A Mirror Recorder for Photographing the Compensatory Movements of Closed Eyes; *P. W. Cobb* and *M. W. Loring,* A Method for Measuring Retinal Sensitivity; *E. S. Jones,* Improvement in Brightness Discrimination and its Bearing on a Behavioristic Interpretation of Perception; *F. A. C. Perrin,* Physical Attractiveness and Repulsiveness; *D. A. Laird,* Apparatus for the Study of Visual After Images; *S. M. Newhall,* The Modification of Intensity of Sensation by Attention; *Knight Dunlap,* An Improvement in Voice Keys.

PSYCHOLOGICAL REVIEW, XXVIII, 5: *William McDougall,* Belief as Derived Emotion; *J. R. Kantor,* How do We acquire our Basic Reactions?; *Mary Whiton Calkins,* Fact and Inference in Raymond Wheeler's Doctrine of Will and Self-Activity; *E. I. Thorndike,* The Correlation between Interests and Abilities in College Courses; *C. L. Hull,* A Device for Determining Coefficients of Partial Correlation.

THE JOURNAL OF NERVOUS AND MENTAL DISEASE, LIV, 6: *Jonathan Wright,* The Psychiatry of the Greek Tragic Poets in its Relation to that of Hippocrates; *Nolan D. D. Lewis* and *G. R. Davies,* A Correlative Study of Endocrine Imbalance and Mental Disease; *G. B. Hassin* and *T. T. Stone,* A Case of Epidemic (Lethargic) Encephalitis with a Tremor Typical of Multiple Sclerosis.

HARVARD THEOLOGICAL REVIEW, XV, 1: *Henry J. Cadby,* The Social Translation of the Gospel; *Sidney R. Packard,* King John and the Norman Church; *George F. Moore,* Intermediaries in Jewish Theology; *Louis H. Gray,* Some Recent Studies on the Iranian Religions; *Kirsopp Lake,* The Problem of Christian Origins.

THE JOURNAL OF PHILOSOPHY, XVIII, 26: *George Santayana,* On my Friendly Critics; *Maurice Picard,* A Discussion of "Mind Discerned," XIX, 1: *Arthur O. Lovejoy,* Pragmatism and the New Materialism; *Lucinda P. Boggs,* A Partial Analysis of Faith. 2: *John Dewey,* An Analysis of Reflective Thought; *J. R. Kantor,* The Nervous System, Psychological Fact or Fiction?

MIND, XXXI, 121: *G. Dawes Hicks,* The Philosophical Researches of Meinong, I; *R. Wood Sellars,* Concerning "Transcendence" and "Bifurcation"; *J. E. Turner,* Dr. Wildon Carr and Lord Haldane on Scientific Relativity; *W. Lutoslawski,* A Theory of Personality.

THE PERSONALIST, III, 1: *Josephine Hammond,* Wonder and the Playwright, Dunsany; The Editor, Dante's Treatment of Personality; *Robert W. Rogers,* The University, Italy to California; *Bernard Capen Ewer,* The Philosophy of American Life.

REVUE PHILOSOPHIQUE, XLVII, 1–2: *H. Delacroix,* La foi et la raison; *G. Dumas,* L'expression des émotions; *E. Rabaud,* L'adaptation et l'évolution, III; *Ch. Lalo,* Ethique et esthetique; *E. Goblot,* Analyse d'un reve; *W. M. Kozlowski,* La réforme de l'enseignement Philosophique à l'Université.

ARCHIVES DE PSYCHOLOGIE, XVIII, 69–70: *Ed. Claparède,* Théodore Flournoy, sa vie et son oeuvre; *Theodore Flournoy,* L'idée centrale de la critique de la raison pure; *J. Larguier des Bancels,* L'abime de Pascal; *J. Piaget,* Une forme verbale de la comparaison chez l'enfant.

RIVISTA DI FILOSOFIA NEO-SCHOLASTICA, XIII, 5: La Redazione, La Facoltà Filosofica della Università Cattolica del S. Cuore; *G. Cattaneo,* Roberto Ardigò, Nei ricordi d'uno dei suoi primi discepoli all'Universita di Padova; *G. Sestili,* La filosofia di S. Bonaventura; *C. Baeumker,* Pietro d'Ibernia maestro della gioventù di Tomasso d'Aquino e una sua disputa alla presenza del re Manfredi.

RIVISTA TRIMESTRALE DI STUDI FILOSOFICI E RELIGIOSI, II, 3: *G. Furlani,* Studi apollinaristici, I; X, Il valore estetico e religioso della critica; *A. Pini,* Il messaggio religioso di A. Towianski; *Y. Colombo,* Dio e la filosofia.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE, LXXXVIII, 1–2: *E. R. Jaensch,* Grundfragen der Akustik und Tonpsychologie; *E. R. Jaensch,* Über die Vorstellungswelt der Jugendlichen und den Afbau des intellektuellen Lebens; *V. Paul Krellenberg,* Über die Herausdifferenzierung der Wahrnehmungs- und Vorstellungswelt aus der originaren eidetischen Einheit; *J. Plassmann,* Die Milchstrasse als Gegenstand der Sinneswahrnehmung; *G. Révész,* Tierpsychologische Untersuchungen.

RUCH FILOZOFICZNY, VI, 3–5: *Stefan Blachowski,* Kongres psychologii eksperymentalnej. 6–7; *T. Kotarbinski,* O potrzebie zaniechania wyrazow "fiolzofia;" "filozof," "filozoficzny," it. p.